

*SUPERINTENDENT'S ANNUAL
NARRATIVE
FY2011*



YELLOWSTONE NATIONAL PARK



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Superintendent's Office

Beginning in FY2011, the Superintendent's Office consisted of Superintendent Suzanne Lewis (SES), Deputy Superintendent Colin Campbell (GS15), Executive Assistant Jan Laye, (GS09), and Secretary/FOIA Officer Kerrie Evans (GS08). However, in late October, after almost nine years in Yellowstone, Superintendent Suzanne Lewis left the park. While her retirement party was held on October 21, 2011, in the Mammoth Hotel Map Room; she officially retired on March 1, 2011. Deputy Superintendent Colin Campbell acted as Superintendent during the transition to NPS Assistant Director Dan Wenk coming on board as the park's new Superintendent on February 24, 2011. Colin Campbell transferred to Denver in March as Deputy Regional Director in the Intermountain Region. Steve Iobst, Chief of Facility Maintenance, acted in the Deputy position beginning in March 2011 until August when he officially began the duties as Deputy Superintendent.

Notable Topics:

- Possible Government Shutdown-Debt Ceiling Showdown
- Winter Use DEIS
- Bison Management
- YELL 077 Concessions Contract/Prospectus
- Lake Trout Science Review Panel at Chico Hot Springs
- Lake Comp Plan
- Visit from Secretary Salazar-Town meetings with Employees and Partners
- Two Grizzly bear attacks and fatalities

Superintendent Wenk spent the first few months of his Superintendency traveling around Wyoming and Montana meeting with Governors, state officials, Chamber of Commerce and NGOs. He spent a great deal of time working on the Government Shutdown plan due to possible budget reductions and the debt ceiling crisis, working with divisions on their budget scenarios and meeting with various park partners to understand their organizations and their relationship with the park.

Superintendent Wenk traveled with the Yellowstone Park Foundation President and staff to various fundraising events in Washington D.C., New York City, Mountain Sky Guest Ranch and Silver Tip Ranch. He attended NLC meetings in Washington D.C.; DAB meetings in Denver, CO; numerous Winter Use meetings in Denver, Idaho Falls, WASO, and Jackson, WY; The George Wright Society meeting in New Orleans; the Beartooth Highway 75th Anniversary celebration in Red Lodge, MT; IBMP meetings in Polson, MT; and Cody Days Events for National Park Days in Cody, WY. He met with Governors Schweitzer in Helena, MT and Governor Meade in Cheyenne, WY.

The Superintendent's Office coordinated responses to 17 congressional requests on behalf of their constituents on a variety of issues including wolves, the Interagency Bison Management Plan, bison vaccination, winter use planning, plowing the "plug," litter, and the Native Fish Conservation Plan/EA.

The Superintendent's Office completed 35 Mammoth Chapel reservations.

FOIA:

The Superintendent's Office was responsible for responding to 51 incoming FOIA requests in FY11. This is the highest number of FOIA requests known to be received by the park in one fiscal year.

Assisted other parks with FOIA, including coordinating and responding to a voluminous FOIA request on behalf of Superintendent Joan Anzelmo of Colorado National Monument for documents related to the Quizno's Pro Challenge Bike Race.

The Superintendent's Office took a proactive approach to responding to multiple requests for documents related to the death of Brian Matayoshi by working with the Interagency Investigative Team and posting the documents and related 911 calls on the NPS FOIA Reading Room site, resulting in fewer formal requests and fair and timely dissemination of the information to the public.

Received notification from the DOI FOIA Appeals Officer that an appeal by Robert Aland on a 2005 FOIA response on winter use was denied, maintaining that an adequate search for documents was conducted by the NPS.

All FOIA requests were responded to within the 20 to 30-day time frame as required by law.

Kerrie Evans attended required annual FOIA training March 6-9, 2011.

Kerrie Evans served as Acting Intermountain Region FOIA Officer for the following dates:

September 6-12, 2011

May 9-16, 2011

March 14-28, 2011

December 27-30, 2010

October 11-18, 2010

42 VIP Reservations – Including:

GYCC Weed Meeting	October 5-6, 2010
WYSHPO Site Visit	October 5-8, 2010
Senator Barrasso Staff Visit	February 22, 2011
Senator Enzi Staff Visit	February 23-24, 2011
IGBC Meeting	June 13-16, 2011
IMR Field Trip	August 1-5, 2011
Secretary Salazar's Visit	August 21-25, 2011
Historic Preservation Training	September 11-14, 2011
Susan Roeder-Anderson Windows Executive Donations Director	September 25-28, 2011

Public Relations

An addition was made to the Public Affairs Office staff at mid-year. Chief of Public Affairs Al Nash and Administrative Assistant Linda Miller were joined by Dan Hottle, who accepted a term position as a Public Affairs Specialist.

Hottle's position was added to the staff in order to provide additional depth needed during peak workload, to allow for adequate coverage during absences of other staff members, and to assist in garnering attention to the wide range of accomplishments of park staff members. In addition, Fire Information Officers were assigned to various summer fires to help cover that additional workload.

A total of 127 news releases, media advisories, or fire updates were issued during FY 2011.

Four perennial issues –

Park visitation, winter use, bison management, and wildland fire – continued to dominate news coverage surrounding the park. The most significant external attention, both from the media and the public, occurred in the wake of the two fatal bear attacks which occurred during the summer.

PAO staff coordinated or prepared itineraries and interviews with various Yellowstone managers for numerous local, national, and international representatives of the media, academia, and government groups.

Several international groups visited the park with assistance through the Public Affairs Office in FY2011. Several others were in contact, but for various reasons were redirected to other NPS areas, often with the help of the Office of International Affairs in Washington, DC.

Management Assistant

In 2011, the Management Assistant's Office, within the Office of the Superintendent, continued to focus primarily on the winter use issue. John Sacklin was the Management Assistant through April 30, 2011, before retiring on May 1, 2011. Wade Vagias came to the park on detail from the WASO on April 16, 2011, and assumed the role of acting Management Assistant. Vagias served in this role through December 2011 before applying for, being offered, and accepting the full-time position on December 4, 2011. Vicki Regula served as Planning Assistant through the fall of 2011 before moving to the Compliance Branch of the YCR.

2011 EIS & 1-year Rule:

In May 2011, the park released a draft EIS. The preferred alternative in the draft EIS was "variable use management," in that it capped use on some days at 330 snowmobiles/80 snowcoaches and 110 snowmobiles/30 snowcoaches on others. More than 58,000 responses were received during the 60-day public comment period on the Draft Environmental Impact Statement (DEIS) that closed on July 18, with significant input on the long-term proposal's requirements and approaches. The goal had been to have a new long-term final Winter Use Plan / Environmental Impact Statement (EIS) and regulation in effect for the park by December 2011.

Based on robust public comment, planners decided to implement a "One-Year Rule" for the 2011-2012 winter season in order to allow time to better address significant public input regarding the proposed long-term regulation. Among the issues that NPS wanted to analyze further before issuing a long-term regulation are:

- Variable preset use limits
- Air quality and sound modeling assumptions
- Proposed Best Available Technology (BAT) for snowcoaches
- Adaptive management framework for emerging technologies

- Costs of avalanche mitigation efforts on Sylvan Pass
- The 10:30 entry time requirement included in the preferred alternative
- Opportunities for non-commercially guided access

Therefore, the NPS issued a Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) that selected only the “transition year” portion of the preferred alternative. In addition, the NPS issued a final rule—allowing winter use for one year—allowing the same use levels with the same restrictions as the interim rule that was in place the past two seasons. The rule will allow for up to 318 commercially guided BAT snowmobiles and up to 78 commercially guided snowcoaches per day in Yellowstone for the 2011/2012 season. It will also continue to provide for motorized oversnow travel over the East Entrance road and Sylvan Pass.

Following the issuance of the ROD and one-year rule, the NPS will immediately begin work to supplement the FEIS in early 2012. The NPS intends to have a final supplemental EIS, a long-term ROD, and a long-term regulation in place before the start of the 2012-2013 winter season.

Other Accomplishments

During calendar year 2011, Wade:

- Continued to support the Wilderness Stewardship Division of the NPS by overseeing Christina Mills, served as guest editor for the Wilderness Edition of Park Science (Winter 2011-2012, volume 28, number 3), and was co-chair of the Wilderness Character Integration Team.
- Served on Derrick Taff’s PhD committee as an affiliate faculty member with the Warner School of Natural Resources, Colorado State University
- Co-authored:
 - Taff, D., Newman, P., Bright, A. & **Vagias, W.** (2011). Day-user beliefs regarding Leave No Trace in Rocky Mountain National Park. *Journal of Outdoor Recreation, Education, and Leadership*.
 - Marion, J., Lawhon, B., **Vagias, W.**, & Newman, P. (2011). Revisiting “beyond Leave No Trace.” *Ethics, Place, and Environment*, 14(2) 231-237.
- Presented/Co-presented:
 - Powell, R., & **Vagias, W.** (2011, March). The benefits of stakeholder involvement in the development of social science research. George Wright Society Conference, New Orleans, LA.
 - Taff, D., Newman, P., & **Vagias, W.** (2011, March). Frontcountry and backcountry visitor attitudes towards Leave No Trace – Are we preaching to the choir? George Wright Society Conference, New Orleans, LA.
 - **Vagias, W.** (2011, March). Wilderness Fellows Program. George Wright Society Conference, New Orleans, LA.
 - **Vagias, W.** (2011, March). Session coordinator: Integrating the concept of wilderness character into National Park Service planning, monitoring, and management. George Wright Society Conference, New Orleans, LA.
 - Weddell, M., Stout, B., & **Vagias, W.** (2011, February). An analysis of shooting range participants attitudes and behaviors in the USDA Sumter National Forest. Southeastern Recreation Research Symposium, Boone, NC.

Comprehensive Planning and Design



Tower-Roosevelt Comprehensive Plan:

The Tower-Roosevelt Comprehensive Plan provided compliance for 20 projects. Of those projects one was approved for construction during FY11:

- Rebuilding cabin roofs

Lake Area Comprehensive Plan/EA:

Staff continued to work with internal ID team members, the park's management team, the Wyoming State Historic Preservation Office, and the U.S. Fish and Wildlife Service to present a thorough environmental assessment of the Lake Area Comprehensive Plan.

Old Faithful Comprehensive Plan/EA:

Staff continued to work with internal ID team members, the park's management team, the Wyoming State Historic Preservation Office, and the U.S. Fish and Wildlife Service to draft three alternatives for the Old Faithful Area Comprehensive Plan. The management team chose a preferred alternative and a thorough environmental assessment of draft proposals went through its first internal review.

Cultural Landscapes Program:

In all cases our office is point of contact and provides information for contractor/OCHLP, coordinates projects/ contracts, conducts and coordinates reviews for YELL and IMRO, works with SHPOs, and writes cultural landscape sections for various EAs, utilizing information from CLIs and CLR. The lead Landscape Architect worked with YCR on the design of the development section of the recently published *Atlas of Yellowstone*.

North Entrance Cultural Landscape

- Phase I of contract with Belt Collins was completed 2011.
- Wrote cultural landscape sections of the North Entrance EA, including Affected Environment and Environmental Consequences using information from CLI.

Lake Cultural Landscape

- Phase I contract with Belt Collins was completed in 2011.
- Phase II contract awarded to Liz Sargent in 2011.
- Wrote cultural landscape sections of the Lake Area Comprehensive Plan using information from CLI, including Affected Environment and Environmental Consequences.

Fishing Bridge Cultural Landscape

- Phase I contract with Belt Collins completed 2011.
- Phase II contract awarded to Liz Sargent in 2011.
- Wrote cultural landscape sections of the Lake Area Comprehensive Plan using information from CLI, including Affected Environment and Environmental Consequences.

Mammoth Cultural Landscape Report Part I

- Olmsted Center for Historic Landscape Preservation (OCHLP) information utilized in Mammoth Charrette in late 2010.
- OCHLP submitted review draft in 2011 that included introduction, site history chapter with rendered period plans, and revised existing conditions chapter with rendered existing conditions plans.

Education

Comprehensive Planning and Design hosted a Cumulative Impacts workshop open to park resource managers and taught by IMR's Laurie Domler. Participants learned how to gauge the overall impact their projects would have on the park's natural and cultural resources, and how that analysis applies during the NEPA process.

Developing the Comprehensive Planning Team:

This year, the vacant positions (vice Chan and Reinhart) were filled by hiring two Outdoor Recreation Planners, Sean Heath and Alicia Murphy. Larry Raffety also came on board as an Environmental Protection Specialist. Intern Eric Ackley provided valuable assistance to the Comprehensive Planning and Design staff throughout the summer.

Creating and Maintaining Relationships

Comprehensive Planning and Design staff conducted field trips with WYSHPO and IMR Compliance personnel to Old Faithful and Lake areas to review Draft Old Faithful Area and Lake Area Comprehensive Plans on site. Reviews were positive and comments/suggestions were incorporated.

Administration

In FY11 the Administration Division operated on a budget of \$3.73 million (\$2.29 million in base funds and \$1.44M in project funding) with 39.4 FTE in five branches: Technology Services, Property and Supply, Budget and Finance, Office Services, and Human Resources. Contracting staff remained duty stationed in the park with joint supervision by the Administrative Officer and Regional Chief of Contracting. However, the budget and FTE for contracting were centralized in Region. The ground work was laid in FY11 to fully centralize both Contracting and Human Resources under the regional office in FY12 but positions will still be duty stationed in the park next year.

In FY11, the Division Chief and supervisors all attended training in writing “manner of performance” style critical elements for Employee Performance Appraisal Plans (EPAPs). Describing manner of performance (or how employees are to carry out their work vs. how much work they do) is one of three acceptable methods of meeting the mandate for writing “measurable” standards. Following the training, the Division supervisors then developed a customer service Critical Element in this style and applied it to all Division employees.

The branches of the Administration Division continued tracking many performance metrics in FY10 and provide the following stats for comparison with prior years:

Technology Services

For FY2011, the Technology Services Branch of Administration consisted of eight permanent, six term, and two seasonal employees and was subdivided into four specific functional areas:

1. Alarms
2. Information Technology/Computer Support Services
3. Land Mobile Radios
4. Telecommunications

Alarms



**NOVEC 1230
Clean (and
Green) Agent
Suppression
Systems**

The Alarm shop staff was dedicated to a professional level of support for automated life safety, property protection, mission protection, security, intrusion, and environmental monitoring systems.

Annual tests are required by NFPA’s Fire Alarm Code and Guide for Premise Security. Yellowstone’s alarm shop completed inspections, tests, and maintenance on 172 NPS alarm Systems. Five staff maintained personal NICET Certification in Fire Alarm Systems with one level I, one level II, and three level III certified technicians. A clean agent fire suppression system was installed in the Communications Center equipment room to protect expensive, mission-critical equipment used in 911 dispatch and alarm monitoring. NOVEC 1230 was the suppression agent of choice as it features zero factor global warming potential and ozone depletion. Additionally it is less damaging and more cost-effective than water-based systems for extinguishing fires where electronic equipment is located.

Further improvements to the video security system allowed for monitoring and recording of activity at all entrance gates and lanes, cash collection points, the five cell detention center, and entrances to secure buildings. Hardware and software on the access control systems was maintained and tuned. Over 700 ISO Prox electro-magnetic access cards were processed and issued to employees. A UL listed security event monitoring software program was procured and partially implemented to upgrade the previous system. The new monitoring system allows technicians and dispatchers to put systems in test mode to avoid distractions at the console. Additionally, the new system generates automated SMS messages to technicians when trouble and supervisory alarms occur.

New fire alarm systems were both designed and installed by Technology Services and other park staff to complete a PMIS/FLREA project for fire detection systems in guest occupied facilities. At the request of the IMR Structural Fire Coordinator and park management, individual certified technicians from the alarm shop travelled to Glacier Bay National Park and Preserve, Fort Laramie National Monument, Bighorn Canyon NRA, and Glacier National Park to inspect, test, and replace or repair many existing fire alarm installations.

The alarm shop also provided support to the Maintenance Division fueling stations and UST monitoring systems at 12 locations with a factory trained and certified technician.

Information Technology / Computer Support Services

Leased underground copper circuits between the Old Faithful Ranger station and the Emergency Services Building and Maintenance were abandoned with the installation of a Yellowstone purchased and installed Cambium Networks 100G wireless bridge. This project greatly enhanced network reliability and bandwidth while providing a cost savings by eliminating the monthly fee for the VG32 Century Link circuit. A similar project was undertaken linking the Mammoth Telecommunications Building to the Garage and offices. End users noticed the increase in access speed and reliability immediately.

IT continued the implementation of Virtualized Server technology to reduce physical server numbers from the CSS server rack. This reduced energy usage, heat generation, and cooling requirements in the server room. CSS continued the Printer / Toner recycling program, saving the park money on printing and redirecting waste from landfills.

CSS set up over 100 new computers. Staff also custom-built and maintained more than 40 Microsoft Access databases utilized in all divisions throughout the park. Over 2000 transactions took place in 2011 associated with employee check-in and check-outs which includes printing Access ID cards, issuing phones, radios, pagers, obtaining network and email access, and setting up voice mail. Tech Services staff also tracked individual FISSA training completion for Yellowstone employees and managed network access removal and restoral for those who missed the deadline for completion.

The new Yellowstone SharePoint site went live with numerous areas being created such as Employee Info, Employee Safety, Environmental Management, Resource Compliance and the

Wireless Committee. The Ranger Premium Pay Access database was a pilot project for an Access database built within SharePoint.

Land Mobile Radios



The Druid Peak LMR Repeater houses the radios, batteries and charging unit in a sealed aluminum box. It has a very small footprint and is virtually invisible to visitors.

A new repeater was deployed on Druid Peak in the Lamar River District. This repeater improved coverage in the Lamar River Valley and allowed the Henderson Mountain repeater to be used for interagency response in the Cooke City area. The Technology Services division maintained eight individual repeaters in four coverage areas of which seven repeaters were solar powered.

The radio staff trained approximately 780 end-users on standard and law enforcement portable and mobile radio use and protocol. A computer based training module was developed and instituted as a pilot project with full implementation scheduled by 2012. This CBT refresher training eased the burden of mandatory training requirements on upwards of 400 radio users who have previous Yellowstone radio system experience.

On-site district preventive maintenance checks on mobile LE radios and base stations occurred in the spring. Mobile radios were checked for programming and hardware issues. Where repairs were necessary, they were often completed on-site. In Mammoth, 231 portable and mobile radio repairs were made, 80 vehicle radios were installed, and 290 portable and mobile radios were reprogrammed.

Due to an unusually heavy snow load, the mast and antenna on the 10,305 ft. Mount Sheridan repeater were lost. Aerial reconnaissance was conducted in April to assess the damage and a repair operation was conducted in June. Technicians were transported by helicopter and set down on a ridge within a mile of the site. Using crampons, ropes, and ice axes, radio shop staff was able to get to the site and install a temporary antenna. In August the crew returned to the site to install a secure and permanent mast and antenna and replace the batteries on the solar charging system. Human powered travel was used for the August trip with the exception of material transport.



The North Repeater antenna was replaced on Mount Washburn and batteries were replaced at the Mount Holmes repeater site. Over 100 mobile radios were installed in government and GSA vehicles by the radio shop. Preventative maintenance was completed on 25 radio base stations and eight radio repeaters, including battery replacements where scheduled. Repairs were completed at several backcountry patrol cabin sites where booster antennas and battery charging stations are installed for patrol rangers' portable radios. Technology Services contracted with an A&E firm to assist with the completion a conceptual design and initial NEPA and SHPO compliance for a new antenna support structure at the Mount Washburn radio site. Technicians installed radio links to 32 USFS repeaters to the Yellowstone Dispatch center for mutual aid

assistance. Planning and research was ongoing for the 13 position radio console upgrade scheduled in 2012.

Telecommunications

A new Avaya IP Office phone and voice mail system was installed at the South Entrance. Mail box and directories were programmed and maintained, trouble tickets and circuit orders were placed with Century Link, and premise wiring was repaired as needed. Premise rewiring projects occurred at the Madison Waste Water Treatment Plant, Stevens Creek Barn, and the Madison Ranger Station. VOIP phones were installed at the Madison Ranger station further expanding our use of VOIP telephone technology.

Two hundred ninety-two monthly telephone bills were processed under one parkwide account and over 1,900 cell phone bills were processed and paid under the Yellowstone Verizon Wireless Business contract. Sixty new and replacement 11honologica were set up.

General Wireless and Cellular Communications

Staff completed the processing and drafting of the right-of-way and inspected the work of Century Link as they completed the fiber optic cable installation on the old railroad bed in the park from Reese Creek to the Gardiner High School. Since the completion of the fiber link from Livingston to Gardiner, Qwest was able to provide additional T-1 circuits to the park. Construction was completed in the fall of 2011.



Ramaker and Associates Inc., AT&T's real estate division, submitted an SF299 Application for Transportation and Utility Systems and Facilities on Federal Lands form to locate six (6) panel antennas on the existing 100 ft. tower owned by Verizon Wireless and located at Elk Plaza. The permit request included a 10'x12' equipment shelter at the base of the tower, within the existing fenced area. The response to AT&T was eventually no, as the request did not adequately address site efficiency through co-location.

The Yellowstone Park Foundation donated a Federal Signal License Plate Character Recognition System which CSS and the Alarm shop installed in 2010. This system required a significant amount of retuning to obtain acceptable capture rates. This system reads the characters on vehicle license plates in the inbound and outbound lanes and checks them against a live NCIC database to alert the NPS if a BOLO or ATL enters or leaves the park. This system was installed at all North, North East, and West Entrance lanes. In 2011, Technology Services and Dispatch also began deployment conversations with Yellowstone Park Foundation and Code Spear regarding an urgent alert notification system designed to support and augment emergency response with wide-area transmittal using pagers, email, and text messaging. Work towards deployment of the Code Spear system began in the fall of 2011.

Underground Utility Location

Technology Services staff were responsible for processing 182 underground utility location requests throughout the park in accordance with state laws and in the interest of personnel safety

and mission protection. This process includes information gathering, notification of WY or MT One Call and all other utilities, and follow-up prior to legal start times. Staff received and performed utility locates for NPS land telecommunications equipment. There are many purposes for underground utility locates in Yellowstone including excavations, geological and archeological surveys, repairs, bury cable, construction, fencing, and snow staking.

Safety



Tower Climbing Safety & Rescue Training - Elk Plaza

Technology Services had no reported injuries in 2011. Inherent exposures to risk and hazards in this field of work demand proper training, situational awareness, leadership, effective communications, and effective leadership.

Safety meetings with the full staff were held every Wednesday with different staff members presenting topics that they were familiar with. Some examples of topics covered in 2011 include respiratory protection, PPE, fire safety, defensive driving, backcountry travel, ladder safety, and preventing exposure to bloodborne/airborne pathogens and zoonotic diseases. The Branch Chief of Technology Services served as the Chair of the Park Wide Employee Safety

Committee. Yellowstone certified a Tower Climbing Rescue and Safety instructor and provided training to all of the IMR Radio staff on location at Glacier National Park. The Radio Shop completed Radio Frequency Safety Training to enhance skills on how to protect staff and the public from hazardous energy and Aviation Safety to facilitate safe transport on helicopter assisted missions.

All radio staff participated in a certified Avalanche I course. One staff member completed the Avalanche II course. All staff completed the Operational Leadership course and one staff member became an active Operational Leadership Facilitator.

Property and Supply

We acquired over \$144,000 (fair market value) in excess items to include an FMC Sweeper, an Oshkosh snow plow, and a forklift. The park received all these items at no cost.

In cooperation with the Ranger Division and Xanterra, we processed 9,743 lost and found items. This process involved donations to Montana Rescue Mission, conversion of items to government property and sale of remaining items on the GSA internet auction website.

Reports of Survey (DI-103) & Cert. of Unserv. (DI-103A) NPS	146 each
Reports of Survey (DI-103) & Cert. of Unserv. (DI-103A) Xanterra	98 each
Report of Excess Property (SF-120) by lots, including Xanterra	14 each
Report of Personal Property for Sale (SF-126) by lots, incl. Xanterra	106 each
Transfer of Property (DI-104) to and from YELL	17 each
Receiving Reports (DI-102)	22 each

Status of Barcoded Accountable Property Items:

Formal NPS items	4204 items	Value: \$34,831,094.54
Formal Xanterra items	297 items	5,753,139.48
Informal NPS items	5857 items	5,154,002.36
Informal Xanterra items	1818 items	1,841,028.14
WIIDS Radio Equip. Inv.	1422 items	3,327,397.79
Total items:	13,598	Total Value: \$50,906,662.31

Office Services

Office Services continues with a staff of two, Supervisor Judy Jensen and Mail Clerk, Debra McPherson.

During the year we processed 15,417 pieces of outgoing mail through the mail meter machine for Yellowstone National Park, down 3,098 from the previous year. Two hundred-eighty pieces were sent by certified mail and another 31 were mailed with merchandise return receipt or electronic confirmation which require extra handling time and add to the cost.

Required background checks cost an additional \$346.70 for Human Resources letters sent out using certified mail and for the postage paid return envelopes.

The number of lost and found packages increased this year to 156 for a cost of \$512.88 an increase of \$105.18 over the previous year.

\$251.05 was spent mailing 19 packages of fishing permits to vendors for them to sell, which amounted to a decrease of 5 packages and \$42.62 from the year before.

A total of 1,990 informational packets were mailed by bulk mail amounting to a savings to the government of \$333.25 and a savings of \$876.60 to Yellowstone's postage budget that would have been spent if we had sent them regular mail. The number of informational packets sent decreased by 636 from the number mailed out the previous year. The availability of information on the web has made a marked decrease in the number requested in years past.

Another 8,894 pieces of mail were sent out using presorted, automation methods to cut \$14,689.40 from Yellowstone's postage budget and a savings to the government of \$10,906.16. We encourage everyone who has mail that will qualify to send it bulk mail. Time spent doing bulk-mailings is money saved from Yellowstone's postage budget and for all of us as taxpayers. We are very conscientious and continually strive to do business in the most cost-effective manner.

Our incoming mail included 45,285 letters, 29,540 flats, and 2,460 parcels for a total of 77,285 pieces of mail that was picked up from the post office, sorted and distributed. While the number of parcels received increased by 155, the number of flats decreased by 4,785 and the number of letters decreased by 3,200. This figure does not include inter-office mail that was sorted and distributed. The amount of information and business accomplished by electronic means has definitely changed the amount of mail processed through the Post Office and our mailroom.

A total of 1,280,840 copies were run on the two high-speed copiers in the mailroom and another 87,246 color copies were made. Road closure notices were not printed this year which accounted for the majority of the decrease.

A total of 673 pieces of outgoing correspondence were logged into the database then filed into the central files system for the year 2011. This was down by 5 from the previous year. Totals were not kept of the newspaper clippings, all employee notices, etc. that were also filed.

Summary

Total incoming mail: 77,285 (decrease of 7,730)

Total outgoing mail through mail meter: 15,417 (decrease of 3,098)

Total outgoing mail sent bulk: 10,884 (decrease of 4,305)

Total color copies: 87,246 (increase of 1,562)

Total black & white copies: 1,280,840 (decrease of 90,541)

Budget, Finance, and Central Fee Collections

For FY2011, the park obligated a total of \$66.3 million, including \$35.3M in base funds, \$7.8M in other appropriated funds (Line Item Construction, ONPS projects, Repair/Rehab., and Centennial Challenge funds), \$9.7M in visitor, special use, filming, and concessions franchise fees, \$5.7M in concessions utilities and other reimbursable accounts, \$1.3M in donations and grants, \$2.8M in Federal Lands Highway Program support funding, \$1.5M for wildland fire, and \$2.2M from government furnished quarters and school accounts.

Staff changes in FY11: Lindsay Robb accepted the permanent Administrative Officer position, and left the Comptroller position vacant. Finance Officer Sue Capasso and Budget Analyst Teresa Fischer, along with temporary relief from retired NPS employee Jean Sigafos, backfilled the Comptroller duties. Jessica Giamportone transferred to the garage, leaving the Financial Support Technician (Accounts Receivable) vacant the entire year other than occasional backfill by seasonal staff.

The hiring of seasonal cash clerks for the Cash & Debt Management Program (Central Fees Office) was streamlined, as both returned from the previous year with experience under their belts. Since one of the cash clerks has a shortened season due to her teaching position at the local school, the “side season” cash clerk was hired from Glacier and her start date was negotiated with the losing park to fulfill both the losing and gaining parks’ requirements.

Finance audited the park’s entire Fleet Charge Card program; setting the stage for identification of findings and recommendations for corrective action where needed. Future years will only require 1/3 of the cards audited.

The Third Party Draft program (TPD) was phased out as the new payment procedures were implemented at the beginning of the fiscal year. Waivers were initially required for vendors not accepting charge card payments until the TPD contract expired in August 2011.

Workload statistics for FY2011 included:

Travel Vouchers	950	
Training Forms	51	
Permanent Change of Station Travel Vouchers	45	
Bills of Collection	585	
Official Receipts	250	
Pre-Authorized Debits	594	(totaling \$5,307,962)
Deposits (both fees and administrative)	147	(totaling \$7.7M)
Income Transfers (credit card income)	34	(totaling \$3,312,558)
Income Transfers (non-credit card income)	7	(totaling \$13,964)
Expenditure Transfers (ET)	75	(totaling \$225,733)
Third Party Drafts issued	32	(totaling \$15,470)
Utility Payments	912	(totaling \$1,702,161)
Miscellaneous Vendor Payments	362	(totaling \$108,443)
GSA Rental payments	12	(totaling \$239,969)
GSA Fuel reimbursements	12	(totaling \$75,709)
GSA Work order payments	9	(totaling \$6,986)
Tort Claims	11	(totaling \$4,548)
Quarters to Account ETs	7	(totaling \$103,564)
Number of Charge Card Holders	453	(151 required to audit)
Purchase/Travel Charge Card Audits	81	
Travel Only Charge Card Audits	76	
Fleet Charge Card Audits	383	(100% of fleet cards)
Corporate Charge Card Audits	1	
Number of Accounts Tracked	1,079	
Number of Fund Sources Managed	22	

Concessions Management

Overview

In 2011, the Concessions Management Division managed 63 concession contracts for necessary and appropriate commercial services throughout the park. During the year, the division evaluated services and activities for quality, safety, and adherence to NPS standards. It also reviewed and approved rates based upon approved methods, typically comparability.

Two companies held Category I contracts: Xanterra Parks & Resorts (YELL077) and Delaware North Park Services at Yellowstone (YELL004).

Two companies held Category II contracts: Medcor, Inc. (YELL002) and Yellowstone Park Service Stations (YELL001).

Forty-five companies held Category III contracts to provide backcountry outfitter and guide stock trips. Eleven companies held 14 Category III contracts to provide snowcoach and, optionally, summer bus tours.

In addition to concession contracts, the division managed 179 commercial use authorizations for suitable services throughout the park, including 21 for snowmobile tours.

Facility Branch

The Concessions Facility Branch oversaw the concession asset management program for more than 900 government-owned, concessioner-assigned facilities. It developed a system to schedule annual-condition assessments rotating throughout the five developed areas of the park, allocating approximately \$450,000 toward this effort annually. All data was maintained in a concessions database to provide concession contract oversight and maintain the national asset management database (FMSS).

Concessioners submitted annual maintenance plans that identified projects to cure deficiencies and schedule component renewal. Each concessioner also developed a five-year strategy, scheduling Repair and Maintenance Reserve (RMR) projects and identifying repair and maintenance improvement programs. RMR funding and corporate repair and maintenance obligations were instrumental to the preservation of these facilities. All projects were designed and implemented by the concessioners with the review and approval of the NPS.

Operations Branch

The Concessions Operations Branch oversaw commercial visitor services and the administration of concessions contracts and commercial use authorizations. The branch conducted rate studies, evaluated facilities and services for adherence to contractual requirements and NPS standards, and completed annual overall ratings.

In 2011, Xanterra offered facilities and services around the park during the summer and facilities and services at Snow Lodge and Mammoth during the winter. Delaware North operated general stores around the park during the summer and a year-round store at Mammoth. Medcor provided medical services at Old Faithful and Lake in the summer and year-round at Mammoth. Yellowstone Park Service Stations operated staffed service stations around the park during the summer and year-round pay-at-the-pump gas services. Outfitters and guides operated from July through October. Winter snowcoach operators offered guided tours from December 15 to March 15.

YELL077 – Xanterra Parks and Resorts (XPR)

XPR provided lodging, food and beverage and retail services, transportation, livery and marina services, and other general visitor services. The contract is assigned 831 structures. XPR's gross receipts were more than \$87 million. It paid more than \$2 million in franchise fees. It debited more than \$9 million to a repair and maintenance reserve account.

Notable XPR projects completed in 2011 included the following: upgrade of electrical services at the Fishing Bridge RV Park Phase II, design of the seismic/structural stabilization of the Old Faithful Inn Kitchen, seismic/structural stabilization of the Aspen Dormitory including the replacement of the windows and the installation of the Green Dine public restrooms at the Mammoth Hotel Dining Room.

Notable operation events in 2011 included upgrades of furniture (personal property) at the Old Faithful Inn Bear Paw Deli and Bear Pit Bar and a \$481,355 purchase of new mattresses. Electrical hookups were available at Fishing Bridge RV Park because older electrical infrastructure and electrical capacity were replaced; site rates increased from \$35.00 to \$37.00 in 2011. Visitor complaints decreased from the prior year. Lodging rates increased due to an extensive rate comparability study. The park conducted 95 formal evaluations, 6 dining room evaluations and 21 daily observations of XPR in 2011 and assigned it a "Satisfactory" annual overall rating.

YELL002 – Delaware North Parks Services (DNC)

DNC (dba Yellowstone General Stores) operated twelve general stores throughout the park in 2011. The contract is assigned 29 structures and will expire on December 31, 2018. DNC's gross receipts in 2011 were more than \$23 million. It paid more than \$231,000 in franchise fees; and debited the same amount to a repair and maintenance reserve account.

DNC continued its investment of \$150,000 of maintenance capital annually in addition to its corporate repair and maintenance responsibilities. Notable projects completed in 2011 included design of the seismic/structural roof replacement of the Canyon Adventure Store, the exterior restoration of the Fishing Bridge General Store and replacement of the Grant Village General Store Fire Sprinkler System.

Notable operation events in 2011 included the installation of two additional chilled water filling stations at general stores and reinstallation of food service at the Tower General Store. Visitor complaints decreased from 2010. The park conducted 23 formal evaluations and an interpretive theme evaluation of DNC in 2011 and assigned it a "Satisfactory" annual overall rating.

YELL001 – Medcor, Inc. (Medcor)

Medcor's gross receipts for 2011 were more than \$2.6 million and paid more than \$20,000 in franchise fees. The contract has no repair and maintenance reserve obligation.

Medcor continued its operation of seasonal clinics at Old Faithful and Lake and a year-round clinic at Mammoth, offering medical services critical to the park visitors as well as park employees and residents. XPR and YPSS paid \$600,000 and \$25,000 respectively to Medcor in

concessioner support funds. XPR, DNC, YPSS and the National Park Service seasonal employees participated in the Seasonal Employee Health Care Program (SEHCP).

Notable projects included the upgrade of the Lake 4-plex flooring and the upgrade of the Mammoth Clinic restroom. Notable operational events included the implementation of digital radiology and comprehensive drug testing.

Notable operation events in 2011 included improving the quality of the 12-Lead ECG classes to include pertinent data for clinic staff specifically and increasing the number of megacode practices at all three clinics. The Mammoth Clinic served more visitors than in 2010 and Lake and Old Faithful served fewer visitors. There were more visitor complaints in 2011. Medcor hired Dr. Joe Keel and he began mid-April, 2011. The park conducted five formal evaluations of Medcor in 2011 and assigned it a “Satisfactory” annual overall rating.

YELL004 – Yellowstone Park Service Stations (YPSS)

YPSS continued to provide automobile service stations and towing and repair services to park visitors. YPSS gross receipts were more than \$10 million and the contract has no franchise fee obligation. It debited more than \$325,000 to its repair and maintenance reserve account.

Notable projects included the design of the seismic/structural stabilization of the Fishing Bridge Repair Shop and Service Station. The project did not move into final construction documents due to the collapse of the center of the repair shop. The project was placed on hold until the appropriate compliance is completed.

Notable operation events in 2011 included the continuation of the towing protocol. Complaints about YPSS regarding towing decreased in 2011. YPSS was innovated in bringing temporary facilities to Fishing Bridge due to the collapse of the Fishing Bridge Repair Shop. The park conducted 12 formal evaluations of YPSS in 2011 and assigned it a “Satisfactory” annual overall rating.

Snowcoach Operators and Snowmobile Operators

The 2009 Winter Use Interim Plan/EA, in effect during the winter of 2009/2010, established an allocation of 78 snowcoaches per day and 318 snowmobiles per day until a final plan and EIS are issued. Snowcoach franchise fee and snowmobile commercial use authorization payments combined totaled more than \$208,000.

Ten companies held 13 snowcoach concession contracts in the park in 2011, down from 11 companies and 14 contracts in 2010. (Yellowstone Explorers’ concession contract was terminated for failure to comply with the terms and conditions of the permit. Its two-coach, South Entrance allocation was not reassigned.) All operators received a “Satisfactory” annual overall rating. (XPR also offered guided interpretive snowcoach tours under its concession contract.) Snowcoach operators brought 17,393 visitors in to the park, making 2,122 trips.

Twenty companies held 21 commercial use authorizations to provide guided trips. Snowmobiles were equipped with best available technology (BAT). (XPR and Flagg Ranch also offered guided interpretive snowmobile tours under their concession contracts.) Snowmobile operators brought 19,473 visitors on 15,825 snowmobiles into the park.

Backcountry Stock Outfitters

Backcountry guided trips were offered through 46 outfitter contracts in 2011. Stock outfitters provided 622 day trips and 116 overnight trips. The number and duration of trips per contract ranged from zero to 100 day trips and zero to 14 overnight backcountry trips. Forty-four of the 46 stock outfitter operators received a Satisfactory Annual Overall Rating. One operator received a “Marginal” and one received an “Unsatisfactory” rating. Franchise fee payments received in FY11 totaled more than \$66,000.

Commercial Use Authorizations

One hundred fifty-eight companies operated in the park in 2011 providing visitors with services that included backpacking, day hiking, biking, skiing, fishing, canoeing, kayaking, photography workshops, road-based tours, and towing. The largest company, Backroads Inc., had more than \$1 million of in-park gross receipts. A number of companies reported \$0. Payments for commercial use authorizations totaled more than \$29,000.

YELL077-13 Prospectus Development

YELL077, a category 1 concession contract, is currently held by Xanterra Parks and Resorts. It was entered into on December 1, 2005, and was to expire on November 30, 2010. In 2010, it was extended for three years, December 1, 2010, to November 30, 2013.

In 2009, Prizim, Inc., an “environmental and energy management services firm” located in Gaithersburg, MD, received the contract to develop the prospectus for the YELL077-13 contract. This was Prizim’s first prospectus development project.

Janet Campbell was the WASO project manager and COR. Jennifer Bonnett was the regional project manager. George Helfrich was the park field coordinator.

During the year, park staff made presentations to the 19honologic team, had weekly phone calls with region and WASO, and regular phone calls with PRIZIM. WASO, IMRO, and park staff held the scenario meeting in April. The superintendent made a formal presentation to the Development Advisory Board and an informal presentation to the deputy director in June.

Anticipated terms and conditions of the contract include a concessioner facility improvement program; a franchise fee sufficient to meet the park’s historical franchise fee expenses; a repair and maintenance reserve provision based on condition assessments; some alternative method of LSI depreciation; a term long enough for a reasonable opportunity for profit given the required initial investments; and an internal rate of return sufficient to attract offerors.

The park expects to finalize the prospectus, complete solicitor review and director approval, and release the prospectus in the first six months of FY 2012.

Staffing

Chief, Business Management Division, GS-1101-14 (Helfrich)
Supv. Concessions Mgt. Specialist, (Branch Chief, Asset Management) GS-1101-13 (Murphy)
Supv. Concessions Mgt. Specialist, (Branch Chief, Operations) GS-1101-12 (Reinhart)
Financial Analyst GS-1101-11 (Gallagher)
Architect GS-801-11 (Dawson)
Concessions Management Specialist, GS-1101-11 (McAdam)
Concessions Management Specialist, (Database Manager.) GS-1101-09 (Smith)
Concessions Management Specialist, GS-1101-09 (Williams)
Administrative Assistant GS-0303-06 (Wyman)
Office Assistant GS-0303-05, part-time Seasonal (Morey)
United Public Health Officer (Public Health Service) (Larsen)

Budget

- \$587,900 in base funds, 77% in personal services cost

Franchise Fee Income

- \$ 2,149,000 income for FY11

Franchise Fee Obligations

- \$1,557,000+ in prospectus development and plan development for the YELL077 contract.
- \$703,000+ in concessions management program support (personal services in asset and operation management branches, facility condition assessments, concessioner evaluations, historic structures reports and visitor survey).
- \$330,000+ in parkwide support (winter grooming, grooming equipment replacement, PBX phone switch replacement, cultural landscape inventories, infectious disease reporting system, and parkwide safety program).
- \$300,000+ for various projects (providing essential park information, improving condition of trails, producing park Unigrid brochures, providing public information and interpretation/education, upgrading parkwide connectivity, and completing the historic structures strategy)

Maintenance and Facility Management

No submission at this time. May be added at a later date.

Resource Stewardship - Yellowstone Center for Resources

Budget and Personnel

The Yellowstone Center for Resources was allocated a FY2011 base operating budget of \$5,125,200 with a staff of 74 full-time-equivalent employees. The base allocation was 65 percent of the total YCR budget for FY11. Additional monies came from Recreation Fee Demonstration funds, the Fishing Fee program, the Federal Lands Highway Program, the NPS Servicewide Consolidated Call, private sources, other National Park Service funds, and other federal funds. Twenty-eight assistance agreements and task orders were processed in FY11, for approximately \$1,706,700 in partnership agreements activity.

Natural Resources

Air Quality

No National Ambient Air Quality Standards were exceeded in Yellowstone National Park (YNP) in 2011 for the four measured criteria pollutants: ozone, particulate matter, nitrogen oxides (NO₂), and carbon monoxide. The Air Quality in National Parks 2009-2011 Annual Performance and Progress Report indicated that air quality neither deteriorated nor improved in the park from 1999 through 2011. The winter air-pollutant concentrations for the locations where monitoring occurs also remained below health standards measured in parts per billion (ppb) and set by the Environmental Protection Agency (EPA). Nitrogen deposition, however, continues to be of significant concern because it is occurring at levels known to be harmful to sensitive resources, including alpine areas, wetlands, arid areas, and grasslands. NO₂ is at about 50% of the standard (100 ppb as the 98th percentile over three years) at the West Entrance and below 10 ppb at Old Faithful. The nitrogen deposition results from emissions from vehicles, power plants, industry, agriculture, and fires.

Air quality is also monitored at the West Entrance and at Old Faithful during the winter because of concern about the effects of oversnow vehicles. Fewer snowmobiles entering the park and reduced emissions by snowmobiles have greatly reduced carbon monoxide and particulate matter concentrations since 2003. Although air quality in the park meets EPA standards for protection of human health, carbon monoxide levels are sometimes above natural regional background levels in areas near vehicle routes, especially during the winter.

Geology

Earthquakes. Yellowstone's total number of earthquakes has ranged from 872 to 3,172 earthquakes annually over the last ten years. Although about 670 earthquakes were detected in the park in 2010, no earthquake swarms were reported in the park in 2011.

Geothermal feature activity. No basin-wide changes in geothermal activity were noted in 2011. The Old Faithful eruption interval decreased to 89 minutes in late 2011 and Steamboat Geyser did not have a major eruption. Echinus Geyser at Norris continued a period of limited activity, with only two eruptions noted in 2011.

Geothermal monitoring program. Progress in 2011 included documenting the status and trends of the geothermal system by measuring the total amount of thermal water and the total heat output for selected geyser basins. Aircraft and helicopter thermal infrared images are being used to document natural and anthropogenic changes in the hydrothermal areas.

Five stream-flow gauging stations (Gardner River, Firehole River near the Gibbon River, Firehole River near Old Faithful, Gibbon River, and Tantalus Creek) were funded as part of the chloride flux component of the geothermal monitoring program. Chloride flux is an approximation of the convective heat loss of the park's geothermal system. No major changes were seen in the chloride-loading measured in the park's major rivers.

Vegetation

Inventory and monitoring. Park staff has met the servicewide inventory and monitoring goal of documenting at least 90% of the park's 1,346 vascular plant species and incorporating the information into the NPSpecies biodiversity database, which now includes the approximately 10,241 specimens in the park's herbarium. During the 2011 field season, two new species of the park were discovered and added to the herbarium collection. To prevent impacts on rare plant populations and wetlands, park staff conducts surveys prior to construction projects, trail re-routes, and other activities that disturb soil. In addition to complying with statutory requirements, these surveys collect valuable data and set the stage for mitigating actions. The documentation of wetland mitigation continued in 2011 on the Turbid Lake Road, where 37 sites totaling 2.5 acres of wetland have been restored to natural conditions. Wetland monitoring sites for mitigation continue to be established along the Gibbon canyon road corridor. Summer fieldwork for comprehensive planning resource inventories took place primarily in the Lake development area, where 655 acres were surveyed and 244 wetlands were found. Thirteen sites containing two rare plant species were also documented. Park staff also continued rare plant surveys for 10 rare plant species and in delineating wetlands in the Mammoth/Gardiner development areas.

Nonnative plants. No new nonnative species were reported in the park in 2011, but many of the 218 known established nonnative species continued expanding their ranges. A total of more than 9,170 hours were devoted to exotic vegetation identification and control by 26 members of the park staff, one student intern, 10 full-time summer volunteers, a crew from the NPS Exotic Plant Management Team, and dozens of other individual volunteers and groups. Of the approximately 20,429 acres in the park surveyed for invasive plants during 2011, 4,641 acres contained invasive nonnative vegetation species. A total of 118 acres in the park were treated for invasive plants using a combination of chemical and mechanical removal methods.

With assistance from the Greater Yellowstone Coordinating Committee, park staff conducted eight inspections for invasive plants at sand and gravel pits in the greater Yellowstone area, resulting in the approval of six pits for use of their material in the park. Park staff and the GYCC also worked with seven cooperative weed management areas to map and treat weeds on land adjacent to the park; and support weed education efforts.

Woody vegetation. The status of woody vegetation on the northern range (aspen, willow, and cottonwood) as it has been affected by changing elk population levels and wolf reintroduction continued to support diverse research opportunities in 2011. Some communities are showing recruitment of young plants, while other are showing no change or are continuing to decline. Hydrology, climate influences and the role of beaver in supporting or maintaining diverse riparian/woody vegetation communities are being explored.

Gardiner Basin restoration. As part of the long-term project to restore former agricultural fields along the Yellowstone River corridor inside the park's north boundary, 50 acres were treated with herbicides and seeded with preparatory cover crops with financial support from Recreation Fee Demonstration funds. Native seed planting trials were conducted in the fall of

2011 on two small areas. Thirty of the 50 acres are scheduled for native seed planting in the fall of 2012. The sites are fenced to exclude wildlife while native vegetation is re-established.

Whitebark pine. In June 2011, whitebark pine was considered for listing as Threatened under the Endangered Species Act. It was determined throughout its range to be “Warranted but Precluded” giving it status as a Candidate Species with no federal protection at this time. Yellowstone National Park participates in the Greater Yellowstone Coordinating Committee Whitebark Pine Subcommittee to collaborate the knowledge and management of whitebark pine throughout the Greater Yellowstone Area. A GYA Whitebark Pine Restoration Strategy was distributed in 2011. One important component was the identification and protection of 10 “Plus Trees” in Yellowstone National Park, believed to be resistant to white pine blister rust. These trees were protected from mountain pine beetle; cones and scion branches were collected for rust resistance testing and future planting in the GYA.

Hazard tree removal. The division is responsible for managing forest resources for public safety. Due to shallow weak soils, variable composition and structure of forest stands, and debility of trees due to damage from insects and other pathogens; tree failures are a common occurrence in the park. Many trees fail during high wind events. To mitigate the risks to people and their property, Resource Management Operations regularly surveys high-risk front country areas such as campgrounds, picnic areas, and roadways. In 2011, resource management spent approximately 2,834 staff hours in coordinated work with other divisions for the survey and removal of 2,475 trees. This included work in 29 primary and 20 secondary road sections in the park.

Aquatic Resources

The top priorities for the park’s Fisheries Program are the preservation of Yellowstone cutthroat trout (YCT) in Yellowstone Lake and restoration of fluvial populations of native trout, many of which have been lost because of nonnative species introductions.

Yellowstone cutthroat trout preservation. The YCT population in the Yellowstone Lake ecosystem has declined substantially since 1988 because of nonnative lake trout that prey on it and compete with it for food, the exotic parasite that causes whirling disease, and low water flows caused by a series of drought years. Lake trout appear insusceptible to the whirling disease that has severely reduced cutthroat trout abundance in Pelican Creek, a tributary to Yellowstone Lake. In 2011, we collected 971 YCT during our annual YCT assessment monitoring. This is the highest number of fish caught during this netting program in the past two decades.

Approximately 12% of the YCT in the catch were greater than 330 mm in total length; 49% were between 200 and 330 mm; and 40% were smaller than 200 mm. This is a good sign for YCT as smaller fish enter into the population and continue into adulthood.

Lake trout removal. A panel of expert fisheries scientists reconvened in June 2011 for continued review of the program and to update recommendations to the park for future suppression actions. Overall, the panel recognized significant progress made regarding past recommendations and reiterated the importance of increasing our suppression effort. The park is planning a smaller, but similar activity for 2012 to ensure the best science possible is incorporated into our suppression work in a timely manner.

Following earlier panel recommendations, a recent surge in lake trout suppression activities has led to more than 830,500 total lake trout removed from the Yellowstone Lake population since the work began in 1995. As part of that surge, the National Park Service contracted with Hickey

Brothers Fisheries, LLC, of Baileys Harbor, Wisconsin, to use commercial fishing techniques for capturing lake trout. Their research vessels are equipped to lift between 18,000 to 28,800 feet of gill net a day in Yellowstone Lake. They also fished eight large, deep-water trap nets. Heavy net mesh is used to funnel or 'lead' fish into a trap 'box', where they can be removed. Trap boxes range from 20 to 40 ft tall with lead lines up to 900 ft long. Yellowstone cutthroat trout incidentally caught in these nets can be released unharmed back to the lake, allowing the use of this gear type in areas where gill nets are not feasible. The combined NPS and contracted effort removed over 221,500 lake trout from the Yellowstone Lake population in 2011 alone. This included the largest lake trout recorded from Yellowstone Lake (30.25 pounds).

In conjunction with USGS, and with assistance from several interested organizations (Trout Unlimited, Greater Yellowstone Coalition, National Parks Conservation Association, and others), the park launched a lake trout movement study in 2011. Movements of 159 lake trout equipped with acoustic tags were monitored from late August through mid October. Deployment of continuously-recording data receivers, additional tags, and use of mobile receivers will allow the identification of spawning areas and movement patterns within the lake. This information will enhance suppression activities.

YCT restoration on the northern range. As a result of recent invasions of Slough and Soda Butte creeks by rainbow trout, planning continued in 2011 to save the YCT in these drainages, including the a study of design and construction feasibility of fish barriers in both creeks. An extensive genetic survey of the Upper Lamar River was conducted in 2011 to assess the rivers susceptibility to rainbow trout invasion. As in past years, park staff participated in a multi-agency effort that significantly reduced the brook trout in Soda Butte Creek.

Westslope cutthroat trout. After receiving piscicide treatments to remove the nonnative fish, High Lake was been stocked annually from 2007 until 2009 with westslope cutthroat trout from the three known genetically pure westslope cutthroat trout populations. Subsequent monitoring indicates that the stocking has been successful with the first documentation of natural reproduction occurring in 2010 and adult fish observed spawning in the inlets in 2011. Westslope cutthroat trout are now abundant in the lake and otters and other piscivorous wildlife have returned to the lake indicating recovery of the ecosystem. Westslope cutthroat trout restoration in the East Fork Specimen Creek continued in 2011 with the continuation of restocking operations on the stream. The fish barrier, constructed on East Fork Specimen Creek in 2008, withstood higher than normal spring runoff without damage and appears to be performing effectively. Despite delays caused by the 2007 Owl Fire the project is progressing toward successful completion with restocking expected to conclude in 2012.

Arctic grayling. Competition from introduced fish species eliminated the fluvial Arctic grayling that were native to park waters by the 1950s, and the lower reaches of Grayling Creek, where grayling were most abundant, were submerged by the completion of the Hebgen Dam. The uppermost reaches of Grayling Creek, considered a potential site for fluvial grayling restoration, are occupied by brown trout and hybridized cutthroats. A restoration project on Grayling Creek was included as a potential action in the Native Fish Conservation Plan Environmental Assessment that was completed in 2011. Planning for the project is moving forward with barrier construction expected to occur in 2012.

Aquatic nuisance species. In addition to lake trout, two nonnative species are having a significant detrimental effect on the park's aquatic ecology: the New Zealand mud snail and the parasite that causes whirling disease in fish. Concern for zebra and quagga mussels invading the park continues to grow as other parks are now spending millions of dollars to control

infestations. Park staff has increased their vigilance in attempting to intercept watercraft from source locations and educate visitors about the problem, and they purchased a mobile cleaning unit in 2010. In 2011, we sampled the upper Snake River basin for the presence of aquatic nuisance species (ANS). The Snake River headwaters are in the process of being designated as a Wild and Scenic River System. The Wild and Scenic Rivers System designation requires that certain criteria be met. One of these criteria is the assessment of the current extent of ANS throughout the system. Forty-two sites were selected throughout the upper Snake River drainage within the park. Sites were selected based on areas within streams that receive high visitor use, such as stream crossings, popular fishing locations, and areas near road pullouts. New Zealand mud snails were found at only one site below the confluence of the Snake and Lewis rivers. This site previously had been identified as having New Zealand mud snails in 2005.

Water quality. Water temperature, dissolved oxygen, pH, specific conductance, turbidity, and total suspended solids are monitored monthly at 11 stream and 7 lake sites in the park. Chemical parameters are also collected from 3 of the stream sites. YNP has 3 stream segments that are listed as impaired by the state of Montana: Soda Butte Creek outside the northeast entrance, Yellowstone River from Corwin Springs upstream to Bear Creek, and Reese Creek for dewatering.

- *Soda Butte Creek* — In-stream metals contamination in this creek is a result of historic mining near Cooke City, Montana, which is approximately 8 km from the park's boundary. Mine tailings still persist within the floodplain of Soda Butte Creek, and contribute to the listing of a portion of this stream as impaired and only partially supporting of aquatic life and coldwater fisheries. Upper Soda Butte Creek water samples were analyzed weekly for metals (i.e. arsenic, copper, iron, selenium, and zinc) between June and October. All metal concentrations were below the analytical detection limit for all samples except total iron which exceeded aquatic life and drinking water standards 8 and 10 times respectively from 16 samples collected.
- *Yellowstone River basin* — During low stream flows (late April – early May), six sites on the lower portion of the Yellowstone (between Corwin Springs and Bear Creek) were sampled once for total arsenic. Three of these sites are on the Yellowstone 25th homolog and three sites on tributaries that flow into the river. Water collected from all six sites exceeded EPA drinking water standards for total arsenic concentration (0.01 mg/L). Highest total arsenic was recorded at the Gardner River site (0.132 mg/L), which is 13 times higher than the drinking water standard established by EPA. Thermal areas are found throughout the upper Yellowstone River watershed and likely contribute to the high arsenic levels.
- *Reese Creek* — The lower portion of Reese Creek is listed as impaired because irrigation practices from adjacent land owners often leave too little water in the stream to sustain healthy resident fish populations during the critical summer months of July and August. Discharge measurements on Reese Creek were collected during 8 site visits between 2 August and 21 September 2011. The adjudicated water rights stipulate that Reese Creek is to have a minimum flow of 1.306 ft³/sec between 15 April and 15 October during any given year. Due to the large snowpack of the 2010-2011 winter season, stream discharge remained high for a long period of time. Discharge on Reese Creek ranged from 4.27 to 7.43 ft³/sec in August and September, well above the minimum flow the adjudicated water rights stipulate. Continued monitoring of discharge during the summer months is important to conserve the stream's native fish populations and biological integrity.

Bears

In 2011, the parks Bear Management program continued to emphasize prevention of bear-human conflicts and human-caused bear mortalities as fundamental priorities for preserving grizzly bears and black bears in the park.

Bear foods monitoring. The annual availability and abundance of native bear foods influences grizzly cub production and survival, and the number of incidents in which bears attempt to obtain human foods and garbage. Park personnel monitor the availability to bears of three important, high-quality food resources: winter-killed ungulate carcasses, spawning cutthroat trout, and whitebark pine seed production. In 2011, the availability of high quality, concentrated bear foods was good during the spring, poor during the summer, and good during late summer and fall. During the spring, ungulate carcasses were abundant on the Northern Ungulate Winter Range and in interior ungulate winter ranges. The spring season was exceptionally cold delaying snow melt and the phenological development of bear plant foods. During early summer, vegetal bear foods were scarce and very few spawning cutthroat trout were observed in monitored tributary streams of Yellowstone Lake. However, predation on newborn elk calves was frequently observed during the late spring and early summer season. During late-summer and fall, whitebark pine seed production was good throughout most of YNP.

Roadside bear viewing. In 2011, 1,031 traffic-jams where visitors stopped to view bears in roadside meadows were reported in YNP. Traffic jams caused by bear viewing included 414 grizzly-bear jams, 605 black-bear jams, and 12 jams where the species of bear was not reported. Park staff responded to manage 918 (89%) of these ‘bear jams’, spending 2,542 staff hours managing park visitors, providing traffic control, and monitoring visitor behavior in order to prevent visitors from feeding bears or approaching them too closely. Park staff managed 361 grizzly-bear jams, 551 black-bear jams, and 6 bear jams where the species of bear was not recorded. Staff time spent managing bear jams included 1,372 personnel hours managing grizzly-bear jams; 1,163 personnel hours managing black-bear jams; and 7 hours managing bear jams where the species of bear was not reported. Staff spent an average of 2.8 personnel hours per bear jam managing park visitors. On average, park staff spent more time managing visitors and traffic at grizzly-bear jams (3.8 staff hours per jam) than at black-bear jams (2.1 staff hours per jam). No park staff were present at 113 (11%) of the 1,031 bear jams reported.

Bear-human conflicts. There were 9 bear-human conflicts reported in YNP in 2011, including 4 incidents where grizzly bears obtained human foods, two incidents where black bears obtained human foods, one incident where an unknown species of bear damaged a tent but did not obtain human foods, and two incidents where grizzly bears attacked and killed backcountry hikers. These were the first bear-caused human fatalities in the park in 25 years. In response to these fatalities, the park is re-evaluating its bear safety messages and the methods for delivering those messages to the public.

Bear-human conflict prevention. In 2011, Bear Management Office staff and the park’s Youth Conservation Corp completed installing bear-proof food storage boxes in the Pebble Creek Campground in Yellowstone National Park. Pebble Creek became the first campground in the park with bear boxes in 100% of its campsites. The bear boxes were purchased with National Park Service base funds, U.S. Fish and Wildlife Service funds, and donation money raised by the Yellowstone Park Foundation. As part of the program, bear boxes have been installed in the Bridge Bay, Madison, Grant, Norris, Indian Creek, Mammoth, Tower Falls, Slough Creek, and

Pebble Creek Campgrounds. The park's ultimate goal is to have bear-proof food storage boxes in every campsite in every roadside campground in the park. Keeping human food secured from bears reduces bear-caused property damages, bear-inflicted human injuries, and the need to euthanize bears involved in human-bear conflicts.

Grizzly bear reproduction and mortality. The number of individual female grizzly bears that produce cubs in the park has been relatively stable for more than a decade, suggesting that the park's grizzly bear population may have reached ecological carrying capacity. In 2011, a minimum of only 5 adult female grizzly bears produced cubs in the park. The 5 females produced only 6 cubs. Average litter size was 1.5 cubs per litter. There were 4 one-cub litters and 1 two-cub litter observed. The low cub production in 2011, likely reflects the poor production of natural bear foods the previous year. Ungulate carcasses, spawning cutthroat trout, vegetal foods, and whitebark pine seed production were all below average during 2010.

Of the 8 known grizzly bear mortalities in 2011, three died from natural causes, one was struck and killed by a vehicle, and four were removed in management actions, including two that were euthanized and two that were sent to a zoo. Live removals are classified as mortalities because the bears are no longer living and breeding in the park. Since 1997, 398 grizzly cubs have been produced in Yellowstone Park, and only 15 bears have died from human causes (8 management removals and 7 road-kills).

Black bear mortality. There were three known black bear mortalities in the park in 2011. Two black bears were struck and killed by vehicles and one black bear died of natural causes.

Grizzly bear recovery status. In 2011, the total population estimate for grizzlies in the Greater Yellowstone area (GYA) was 593 bears, down slightly from an estimated 603 bears in 2010. Grizzly bears currently occupy over 12 million acres in the GYA. There are more grizzly bears today, occupying a larger area, than there were in the late 1960s prior to the closure of the garbage dumps (312 bears occupying 5 million acres). Grizzly bears now occupy areas from which they have been absent for decades and are expanding into areas well outside of the recovery-zone boundary.

In 1998, grizzly bears in the GYA met all of the recovery criteria required for delisting for the first time. In 2007, the US Fish and Wildlife Service removed grizzly bears from Threatened Species status. However, the delisting was challenged in court. In September 2009, a federal district judge overturned the delisting rule and ordered grizzly bears placed back on the Threatened Species list. The judge ruled that: 1) the Conservation Strategy that guided management after delisting was unenforceable and non-binding on state and federal agencies, and 2) that the US Fish and Wildlife Service (USFWS) did not adequately consider the impacts of the potential loss of whitebark pine nuts, a grizzly bear food source, on grizzly demographics. The USFWS appealed the decision and in 2011, the Ninth Circuit Court of Appeals ruled in favor of the USFWS on the issue of the Conservation Strategy providing adequate regulatory mechanisms to conserve bears after delisting, but against the USFWS on the whitebark pine issue, resulting in the GYE grizzly bear population remaining on the Threatened Species list.

Birds

The core Yellowstone Bird monitoring program continued to focus on select raptors, wetland birds, and songbirds and their closely related allies. A new program called the Yellowstone Raptor Initiative (YRI) was introduced in 2011 and is focused on birds of prey.

Yellowstone Raptor Initiative. The Yellowstone Raptor Initiative (YRI) is a 5-year research program designed to provide baseline information regarding breeding, abundance, and seasonal movements for select birds of prey; to contribute inventory and monitoring efforts to the global scientific community; and to enhance public education and awareness of raptors in Yellowstone. Several species of conservation concern including golden eagles, Swainson's hawk, and ferruginous hawks as a result of habitat fragmentation, wind energy development, human persecution, and exposure to toxins in areas outside the park. Nearly all species are at least partially migratory and may therefore be affected by these and other factors, yet few data exist for most raptors in Yellowstone. The YRI, designed to fill this gap in knowledge, recorded significant progress toward this goal in 2011.

Core Yellowstone Bird Program. Bird monitoring programs have been conducted for more than 20 years and represent some of the longest research and monitoring programs for these species in the nation.

- *Peregrine falcons* – The peregrine population is stable and reproducing at a slightly greater rate than the national average. Twenty-five of 32 known territories were monitored during 2011. Nineteen were occupied by at least one adult. Nest success during 2011 was significantly greater than during the majority of the previous 23 years. Prey remains and eggshell fragments are currently being analyzed for diet and contaminants respectively; however, results from previous samples indicate contaminants were not present.
- *Bald eagles* – The bald eagle population parkwide is reproducing at a rate slightly below that necessary to maintain population stability largely as a result of low productivity at Yellowstone Lake. Poor reproduction at Yellowstone Lake may be in part a result of cutthroat trout declines coupled with other factors including variable spring weather conditions.
- *Osprey* – Osprey parkwide have increased in reproduction since record lows in 2002; however, the Yellowstone Lake population has not recovered and continues to decline as a result of cutthroat trout declines. None of the 4 active nests at Yellowstone Lake were productive and nest attempts have declined substantially. Despite declines at Yellowstone Lake, reproductive success parkwide was greater during 2011 than the 24-year average.
- *Trumpeter swans* – Yellowstone's swan population currently stands at 10 adults including two breeding pairs that have failed to produce young since 2008. As a result of the low population and poor to non-existent reproduction, the future of swans in Yellowstone is uncertain. To address the low swan population and potential management alternatives, YNP held an experts conference in April 2011. As a direct result of the conference, YNP staff installed a nesting platform at Grebe Lake to reduce human disturbance, predation by mammals, and flooding that frequently causes nest failure there. This site will be monitored closely during 2012 to evaluate the success of this project. *Common loons* – Yellowstone supports 75% of Wyoming's total loon population. However, this population is geographically and potentially genetically isolated from other loon populations in Wyoming and Montana, and is reproducing at a rate below that which is necessary for maintaining population stability.

Other surveys and studies. Park staff conducted the annual survey of colonial nesting birds on the Molly Islands, continued a study of willow-songbird relationships that was initiated by Montana State University to establish a long-term songbird dataset, and continued songbird and

woodpecker surveys in areas that had recently undergone forest fire in order to address climate change concerns. Park staff also continued the long-term Breeding Bird Survey designed to track changes in bird abundance over time.

Ungulates

Bison. Park staff participated for the 11th year in the Interagency Bison Management Plan with the State of Montana, Animal and Plant Health Inspection Service, Forest Service, Confederated Salish and Kootenai Tribe, Nez Perce Tribe, and the InterTribal Buffalo Council. The plan is designed to manage the risk of brucellosis transmission from bison to cattle, conserve the ecological role of the bison population in the ecosystem, and allow for gradually increased tolerance of bison outside the park in Montana.

During winter 2011, about 1,500 bison migrated into the Gardiner basin, and more than 300 bison were counted north of the park boundary April 7-19. In addition, 300-400 bison migrated to ranges west of the park in mid-May. Large interagency operations moved the bison back within the park and no bison were removed to meet brucellosis risk-management goals. Approximately 194 bison were harvested outside the park in Montana by licensed state and tribal hunters. The population size was estimated at 3,720 based on aerial surveys in June and July, compared to 3,900 bison in summer 2010.

Elk. Yellowstone's largest elk herd winters on along and north of the park's Montana boundary. The Northern Yellowstone Cooperative Wildlife Working Group, which includes park staff and representatives from Montana Fish, Wildlife and Parks, the Forest Service, and the Geological Survey, conducts aerial surveys of this northern Yellowstone elk population each winter. The winter count, which was approximately 17,000 in 1995, has fluctuated between 6,000 and 9,000 since 2003 and was 4,635 in 2011. The decrease has been attributed to predation by reintroduced wolves and a large bear population, hunter harvest, and drought-related effects on pregnancy and survival. The state of Montana has reduced the harvest of female elk in recent years limiting the impact of hunting on population size.

Pronghorn. Aerial counts recorded 242 pronghorn during surveys in April 2011, fewer than the 297 pronghorn counted in 2010 but similar to counts during 1997-2009. During winter 2011, numerous pronghorn were observed moving north of Yellowstone through the Royal Teton Ranch and towards the southern Paradise Valley in Montana, suggesting some migration and/or dispersal to the Carbella herd may have occurred. Eighty-six pronghorn were counted in the Carbella herd by Montana Fish, Wildlife, and Parks during May 2011.

Mule deer. Aerial surveys conducted in May 2011 by the Northern Yellowstone Cooperative Wildlife Working Group recorded 1,842 mule deer on the northern range in and outside the park, compared to 2,154 mule deer counted in spring 2009. The relative distribution of mule deer across their winter range has remained similar over the last two decades.

Bighorn sheep. Aerial surveys conducted in May 2011 by the Northern Yellowstone Cooperative Wildlife Working Group recorded 363 bighorn sheep in the upper Yellowstone River drainage from Point of Rocks in Montana through the northern portion of Yellowstone to the east boundary of the park. The abundance of bighorn sheep has increased significantly in recent years.

Mountain goats. Descendants of mountain goats introduced in Montana during the 1940s and 1950s have colonized northern areas of the park. Aerial counts of goats inside or within one

kilometer of the park increased from 19 in 2000 to 178 in 2009. A total of 117 goats (91 adults, 26 kids) in 46 groups were observed in September 2011.

Wolves

In 2011, there were more than 1,750 wolves in Idaho, Montana, and Wyoming—more than enough to meet the demographic criteria established for a recovered wolf population in the Northern Rocky Mountain recovery area. Wolves were removed from the federal endangered species list and management authority transferred to the states of Idaho and Montana in April 2011. However, the species was not delisted from Wyoming at that time, and management authority for Wyoming wolf populations still resides with the US Fish and Wildlife Service until spring 2012.

Population. The total wolf count for the greater Yellowstone area has increase steadily since reintroduction began in 1995 and reached 499 in 2011. However, the number of wolves in Yellowstone National Park has trended downward since the peak population of 174 in 2003. There are preliminary signs of reversal in this downward trend, which may indicate the park's population is stabilizing and reaching equilibrium. There were 98 wolves known to be occupying territories located mostly or completely within Yellowstone in 2011, nearly identical to the 2010 count of 97. Most park wolves belonged to one of 10 packs in 2011, with pack size ranging from 3 to 19 individuals. Average pack size in 2011 was 10.2, consistent with the long-term average.

Health. Yellowstone's wolves showed no evidence of distemper as the severe mortality factor it represented in past years (1999, 2005, 2008). Sarcoptic mange also continued to decline in severity in 2011; however, some packs still showed signs of this skin disease, caused by a mite introduced to the West in the early 1900s to reduce wolf and coyote populations.

Management activities. About 17% of the wolves in the park wear radio collars for research and monitoring purposes, including 12 wolves captured and collared in 2011. Wolf management activities also included several den-site closures and hazing events, and one removal of a food-conditioned wolf.

Predation. Park staff detected 343 wolf kills in 2011, including 267 elk (78%), 18 deer (5%), 15 bison (4%), 14 coyotes (4%) and 7 wolves (2%); other species comprising 1% or less of total prey included 2 pronghorn, 2 bighorn sheep, 2 badgers, 1 moose, 1 jackrabbit, 1 raven and 13 unknown.

Cultural Resources

Archeology

University of Montana Archeological Field School. Staff continued to complete archeology program objectives via cooperative agreement with the University of Montana. Provided archeological support of the park's small to mid-sized fieldwork projects (including those related to compliance monitoring) and to continue to operate and manage a functioning park archaeology program. In addition, staff provided logistics and participated in field excavations being conducted by the University of Montana on the south shore of Yellowstone Lake, and assisted the University of Montana archeological field crew with the archeological inventory of a portion of the Madison Power Line (to facilitate three-phase power supply to the new Madison water treatment plant).

GIS/site records. Coordinated with the spatial analysis department on digitization of park archaeology sites and information for the parkwide GIS database. Approximately 150 records containing site location and descriptive information were provided to the GIS department for addition to the parkwide archaeology GIS database. The ultimate goal is the generation of a complete GIS database for the management of cultural resources in the park.

Employee/public outreach. The park archaeology program launched an ongoing series of informative employee seminars, in partnership with the Yellowstone Cooperative Employee Recreation Program. Presented seminars to Yellowstone employees at Lake, Old Faithful and Mammoth Hot Springs on Yellowstone archaeology, including the results of some recent projects. In addition, similar presentations were made to students from Montana State University, and at the Rocky Mountain Anthropology Conference. These seminars and presentations help to ensure a high level of communication of the archaeology program's ongoing work of interest to employees, associated organizations, and the general public.

Field project support/technical assistance. Provided technical and field assistance, and report editing for the Fishing Bridge Upgrade archeological work and the Northwest Shore of Yellowstone Lake archeological project conducted by the University of Montana archeological crew.

Historic site research. Completed research on the Monida and Yellowstone Stage Company Barn (located under the collapsed Old Faithful Pub building for historic archeological site documentation.

Lichenographic dating. Conducted a Lichenography study to provide proxy dating of the park's only known rock art site located in an extinct geyser in the Old Faithful area. The study indicated that the rock art was carved sometime after 1930 but it is unknown by whom.

Native American Internship Program. During the summer of 2011, the archaeology program hosted an intern from a newly developed program, part of the University of Montana's initiative to place Native American students in professional experiences in Yellowstone. Implemented a new internship program on behalf of the park archaeology program with the University of Montana Anthropology department, and supervised one intern through this new program.

Archeological site database. The Archaeological Sites Management Information System (ASMIS) is a database used by the Department of the Interior to record and monitor all archaeological sites. Over 140 records were added/updated in ASMIS during this agreement.

Artifacts processing. Over 100 backlog artifacts (historic and prehistoric) currently in the Heritage and Research Center (HRC) archaeology lab were processed (involving the analysis, cleaning, labeling, preparing for storage), and cataloged in the Department of the Interior Collections Management System (ICMS) for inclusion in the museum collections.

Site condition assessments. A total of 64 sites were evaluated through condition assessments, meeting the federal goal of 35 condition assessments for Yellowstone. These records are kept in the restricted site files located in the Archaeology Lab in the HRC. These new assessments have also been entered into the DOI's ASMIS database.

Site surveys. Coordinated surface survey and testing at two candidate sites (Blacktail Deer Creek Aquatic site, Northern Range Frog Rock site) for installation of environmental monitoring stations. This work was performed by HDR, Inc., a CRM firm based out of Colorado, as part of the ongoing partnership between the park and NEON. Completed pedestrian surface survey and documenting isolated cultural resources along a 4 mile corridor created by the power line

installation. This inventory builds on previous inventories along the power line corridor, and completes the inventory of the segment of corridor slated for vegetation removal.

Power-line site inventory. Completed an emergency Mesa Road power line inventory due to threats from the Gibbon fire, which burned to the southeast of the power line corridor. Due to the threat from the fire, the corridor was slated to be cleared of vegetation as soon as possible, which was determined to be a ground disturbing project with potential to disturb any cultural resources within the area. Approximately 3.5 miles of the corridor (located generally between Madison Junction and Canyon Creek) was inventoried for cultural resources.

Backcountry site assessment. Completed backcountry condition assessments on several archeological sites that had not been assessed since the 1970s.

Site inventory. Completed archeological inventory of re-routes of sections of the Specimen Creek, Seven Mile Hole, Wapiti, Fawn Pass and South Boundary trails.

Testing and compliance support. Completed archeological testing in coordination with YPSS for compliance related to expansion of the Fishing Bridge Service Station.

FHWA Projects. Staff activity in 2011 on these projects included completion of:

- Archeological resource identification, initial bridge design planning, and WYSHPO consultation (initial) for an upcoming major rehabilitation of the historic Isa Lake Bridge.
- Archeological work and initial Section 106 compliance on the Golden Gate to Norris road segment.
- Final Section 106 consultation on the rehabilitation of the Obsidian Creek Bridge into the Indian Creek Campground so that it may be included in the Tower Junction to Tower Fall road work contract.
- Consultation regarding appropriate designs development for rehabilitation of historic road features on the Tower Junction to Tower Falls (Section 2) of the Canyon Junction to Tower Junction road rehabilitation project.
- Section 106 consultation of affect for the road package which includes parking lot and landscape improvements at Canyon Village and rehabilitation of the Obsidian Creek Bridge.
- Inventory of an expanded area adjacent to the Norris parking area to facilitate expansion of the parking facility; and subsurface archeological investigations within NR eligible site 48YE357 to facilitate returning Obsidian Creek back to its original channel after the 1933 diversion to facilitate the current road alignment.
- Compilation of archival photographs of old, no longer extant bridges associated with the park's old road system for stipulations of the MOA for the removal of the historic Lamar River Bridge.
- National Register (NR) testing at NR-eligible archeological site 24YE189/118 in support of the North Entrance Improvement project and conducted by the University of Montana archeological field crew.
- Statistical analysis of flake stone debris for inclusion in and completion of the archeological data recovery report for prehistoric site 48YE114, a small 2,900- year-old family camp near Nymph Lake.

During 2011, staff engaged in continued monitoring activities in connection with: Lamar River Bridge construction; stone masonry work to promote historic craftsmanship for culvert headwalls; ongoing archeological data recovery excavations through the Office of the Wyoming State Archeologist at NR eligible sites 48YE128 and 48YE201 in support of the Golden Gate to

Norris road reconstruction project. In addition, staff edited and co-authored several chapters of the first of two volumes of *Yellowstone Archeology Northern Yellowstone*, with University of Montana Anthropology Professor Douglas H. MacDonald.

Historic Structures

Staff continued development of the parkwide Historic Structures Strategy in conjunction with the University of Montana and Van Citters Historic Preservation. This effort has developed a system to prioritize over 600 historic structures based on historic significance, condition, and use. This year all historic structures were prioritized utilizing input from all park divisions. Additional staff activity in this area included:

- Working with the park's comprehensive planning staff to develop cultural resource sections of the Lake and Old Faithful comprehensive plan.
- Completing compliance on the North Entrance Environmental Assessment (EA) and developing cultural resource sections of the EA.
- Drafting, for a Wyoming State Historic Preservation Office and Advisory Council on Historic Preservation review, the Notice of Adverse Affect for the removal of Loop A and C Visitors Cabins at Canyon Village.
- Issuing a Notice of Adverse Affect for the unintentional collapse of the Old Faithful Pub, a contributing structure to the NR listed Old Faithful Historic District, and related development of a Memorandum of Agreement that may include the renovation of a historic Lake area building to serve as an employee pub.
- Continuing Section 106 consultation on the Old Faithful Haynes Photo Shop move and rear addition while retaining the historic log-out character of the building, which continues to be considered a contributing component of the Old Faithful Historic District.
- Providing cultural resource inventory of historic structures and archeological sites for the development of the Old Faithful Cabin Repurposing and Dorm Construction environmental assessment, including Section 106 consultations for the undertaking.
- Working with the park's maintenance division and the Andersen Window Company to develop suitable alternative replacement windows for the Yellowstone Institute at Lamar, restoring the historic character of the buildings and providing energy efficient solutions.
- Consulting with WYSHPO on the use of an experimental new porch decking lumber product made of recycled ground hard wood and synthetic binders to replace the failing outside decking on the third floor of the historic Administration Building.
- Providing interior documentation and Section 106 consultation on installing concrete floors in a portion of Mammoth building 77, a structure within the Mammoth Hot Springs Historic district.
- Completing Section 106 consultation with WYSHPO to add a bathroom to a Norris maintenance building used for meetings and office space. The building was originally a barn used by road construction crews. Addition of the bathroom will not impact the original character of the building and provide functional use for its continued preservation.

Yellowstone Heritage and Research Center (HRC)

Researchers and outreach. HRC staff assisted with 960 NPS and 1,491 non-NPS inquiries with the archives, library and museum collections; these included on-site visits, telephone, email, and written research requests. The librarians provided a bookmobile service for the 6th summer to make the library's collections and resources more accessible to NPS and YA employees in the park's interior. Staff also conducted 30 public tours during the summer as well as 20 special tours for groups associated with the YA Institute, area schools, Elderhostel's Road Scholar continuing education program and the park's interpretive outreach programs. Eleven volunteers gave 1,723 hours to many archives, library and museum collection projects.

HRC's curator and registrar also assisted Intermountain Museum Management Program staff in packing the collections at Little Bighorn Battlefield (LIBI) for transport and storage at the Western Archeological and Conservation Center (WACC) in Tucson; LIBI's small natural history collection of 149 specimens was temporarily transferred to Yellowstone for storage.

Acquisitions. Staff processed 72 new accessions in 2011; this included 60 linear feet of archives from various park offices and divisions (Concessions Management, Interpretation, Resource and Visitor Protection, Yellowstone Center for Resources). Also included in these accessions were a rare Yellowstone Lake Boat Company badge dated between 1889 and 1907; tree core samples collected in various parts of the park as part of a University of Wisconsin research project; oral histories collected as part of a Gardiner School project on "Yellowstone Marriages;" and deeds for the Gardiner Cemetery dating back to 1910.

Collection conservation. Almost 300,000 items from the backlog were processed and cataloged into ICMS; this included almost 3,400 history items and 121 linear feet (almost 194,000 items) of archives.

History program. In connection with upcoming park projects, the Park Historian completed several written histories, copies of which will be placed in the park library. They included the following:

- "A History of Park Street that Faces Yellowstone National Park in Gardiner, Montana" for the park's north entrance project (draft and final completed January 24, 2011, and June, 2011);
- "A History of the Bechler Ranger Station and Its Surrounding Cultural Area," completed June 24, 2011;
- The "Bridge Bay Developed Area," a history completed May 13, 2011.
- "Historical Bridges and Stage Roads Across and Along Gardner River: A Report for the Files," completed August 2011.

Staff also incorporated reviewers' comments into a 2010 manuscript titled: *"This Modern Saratoga of the Wilderness!": A History of Mammoth Hot Springs and the Mammoth Village in Yellowstone National Park*. It is expected that this manuscript will be published in the near future. In addition, staff reviewed numerous manuscripts and reports for other divisions to assess for historical accuracy.

Environmental Quality

Environmental Compliance.

Staff accomplishments for 2011 included development and process coordination for approximately 80 compliance documents produced to support park operations and projects. In 2011, the branch was involved in:

- Completing the environmental assessment (EA) for the Norris to Golden Gate Road reconstruction project.
- Completing the EA for the North Entrance Project, which proposes to improve traffic flow and safety for those entering and exiting the park.
- Progress on the draft of the EA for the Isa Lake Bridge reconstruction project. As information from FHWA and the Park's Road Team is made available on the alternatives, this information will be added to the EA.
- Continued work on the Snake River Headwaters Wild & Scenic Comprehensive River Management Plan, a cooperative effort with Grand Teton National Park and the Denver Service Center.
- Working with staff from the National Ecological Observatory Network to ensure survey work was completed or planned that will be used in the preparation of an Environmental Assessment (EA) for Yellowstone's participation in this multi-year project that will monitor the effects of climate change on a nationwide scale.
- Assembling an interdisciplinary team and initiating preparation of an Environmental assessment for the Bechler Administrative Area Improvement Plan.
- Participating on an interdisciplinary team and working with the contractor and Fire Cache staff in the preparation of an environmental assessment for the Fire Management Plan update, to be completed in 2012.
- Preparing an interdisciplinary team and beginning preparation of an EA to retain the Old Faithful Lodge cabins and construct an employee dormitory in the Old Faithful administrative area.
- Providing input and support to other park staff in preparation and review of the Old Faithful and Lake Comprehensive Plans/Eas.
- Implementing the Environmental Assessment (EA) for the Wireless Communication Services Plan through continued involvement on the Telecommunications Committee.
- Participating in the Park Road Team and planning for the upcoming Tower Junction to Tower Fall road reconstruction project, Isa Lake Bridge reconstruction, and Norris to Golden Gate Road reconstruction.
- Completing approximately 50 documented and numerous non-documented National Environmental Policy Act Categorical Exclusion documents for projects such as utility line replacements, reroofing projects, seismic upgrades for various buildings, and clearing of vegetation (for powerline corridors and to address wildfire concerns).
- Completing approximately 30 Section 106 National Historic Preservation Act consultations with State Historic Preservation Officers for projects affecting historic properties in the park, including Canyon Lodge upgrades, Old Faithful Lodge cabin rehabilitation, Tower to Tower Fall road reconstruction, and Fishing Bridge Auto Shop rehabilitation.

Environmental Quality also continues to provide assistance and to educate and inform park employees, contractors, and partners about the NEPA process to establish a better understanding and appreciation of this important Act as it relates to the protection of Yellowstone's natural and cultural resources.

Benefits-sharing.

Implementation of Yellowstone's benefits-sharing program began in the spring of 2011 as park staff worked to negotiate the NPS's first benefits-sharing agreement under the Benefits-Sharing EIS/ROD. Such agreements could return benefits to a park and the public when research leads to the development of commercially valuable products or services. The Benefits-Sharing EIS proposed that agreement benefits would be used for scientific purposes to conserve resources protected and managed by the NPS. The agreement partner was Montana State University (MSU) and the technology was based on *Curvularia* fungus collected near Norris Geyser Basin. In November 2011, the NPS terminated negotiations with MSU, releasing the university from benefits-sharing obligation, in recognition of both the NPS's and MSU's mutual interests in seeing the invention reach the market place in a timely fashion.

While the MSU negotiations provided valuable experience, prior to full implementation of benefits-sharing, proper benefits-sharing tools, protocols, and policies must be carefully and thoughtfully developed. Park staff engaged in a joint effort with WASO staff to implement a benefits-sharing program servicerwide, including the development of a Director's Order and manual. Team members included staff from the DOI Solicitor's Office and advisors from other NPS units. Due to the highly technical and legally complex nature of the topic, the final guidance documents will not be completed until 2012.

Professional Support

Spatial Analysis

The Spatial Analysis Center provides a variety of GPS (global positioning system) and GIS (geographic information system) services to park staff and cooperators by interpreting technology and technical data to suit a variety of information needs. Major efforts in 2011 included:

Spatial database of park utilities. Worked with Maintenance staff and collected data through fieldwork, interviews, and paper plans to map utilities in all park developed areas and link them to the Facilities Management Software System database. By the end of 2011, a total of over 4,500 water features and 2,000 sewer features had been mapped. This includes 121 miles of water lines and 74 miles of sewer lines. All of this data is available to area maintenance staff via paper map books, posters, GPS units, and digital maps that can be viewed on computers. In addition, electric utilities data for developed areas continues to be compiled by digitizing paper drawings, interviewing maintenance and electrical utilities staff, and fieldwork. To date, over 600 features and 8 miles of electrical utilities have been mapped in Yellowstone's developed areas.

Support of E911 implementation. Worked with rangers, dispatchers, and coordinated with GIS staff of five counties in three states to compile road lines that are spatially correct, addressed, and named for the entire park. This information can then be used to implement and maintain an enhanced 911 (e911) system. In 2012 we will begin addressing all of the buildings.

Exotic plants, wetlands, rare plants, & archeology. Worked with resource specialists to design databases, create data, and to improve the quality of the available spatial data. This supports the consistency of reports, improves the analysis of data and measurements of the efficacy of control efforts.

Wildland fires. Provided current maps of fires in the park for fire crews, the Public Affairs Office, and the park's website.

Concessions. Created custom maps of concessioner land assignments in support of a new concessions contract.

Recycling, Waste, and Bear-Resistant Food Container Inventory. The location of existing recycling containers was originally requested by Maintenance staff for use in a new recycling contract. Nearly 700 waste containers, 130 bear boxes, and 300 recycling containers were inventoried. In 2011 many of these containers were moved or replaced, requiring an update. By gathering together these data points and combining them with other infrastructure, managers and contractors can determine the best location for future containers, or consolidate existing facilities.

Climate change data. Began working with GYA partners to create a web-based interface for viewing down-scaled climate modeling data for the GYA.

Pollinator project. Coordinated the second year of a servicewide pollinator project involving 41 parks to inventory native bee diversity across the country. More than 14,000 specimens were collected and processed, and are being identified. So far more than 300 species of bees have been identified; many of them are new park and state species records.

Research Permits Office

Scientists from around the world are attracted to studying Yellowstone's unique resources. The Research Permit Office (RPO) issues and manages between 180-200 research permits each year, which is one of the highest volumes of research within the NPS. RPO staff also monitors fieldwork to ensure that it does not alter park resources or conflict with park missions, and communicate study results to managers to support informed decisions. RPO Staff work diligently to provide training opportunities and science-related safety and logistical information to park research groups.

Research permits. The RPO issues permits to researchers to conduct scientific studies in a variety of disciplines. In 2011, the RPO received approximately 50 permit inquiries and processed 17 new project requests. The RPO also managed the park's research dormitory and provided low-cost housing to 28 groups.

Fieldwork assistance. This year the RPO staff assisted 15 research groups in the field. These visits help staff better understand a project's specific objectives and the implication results may have on park management. They also ensure researchers use minimum impact research techniques and that their efforts do not alter park resources. Among the projects RPO staff worked with was a group from Colorado State University investigating winter browsing patterns in willows. Staff assisted 30-yr Yellowstone researcher Richard Castenholz as he searched for cyanobacteria in the crevices of Mammoth Hot Springs travertine. They worked with a Syracuse University research group trying to better understand the effects of bison grazing on plant production and nutrient cycling in Yellowstone's grasslands. Finally, the RPO had the opportunity to spend time with researchers looking at the effects of UV radiation on evolutionary adaptations in hot springs bacteria.

Research results-sharing. In 2011, researchers published roughly 100 journal articles related to their Yellowstone research, several of which were accepted to prestigious journals like *Ecology* and *Proceedings of the National Academy of Sciences*. Several students earned Masters or PhD degrees related to their Yellowstone studies; RPO staff widely distributed the resulting theses and dissertations along with other publications to park staff, public libraries, and online databases that house NPS study results. The RPO organized informative seminars about the results of Yellowstone studies. Finally, the RPO helped create content for the Greater Yellowstone Science Learning Center website and made presentations on Yellowstone research to Montana State University students, officials from Kenya Wildlife Service, and microbiologists attending the International Thermophiles Conference.

Science Communication

As in past years, Science Communication Program staff worked collaboratively with YCR resource program managers and park administrators throughout 2011 to produce numerous print and electronic communications which contribute to the scientific body of knowledge about the park, host discussion of park issues and policies by a variety of participants, and promote resource conservation and visitor enjoyment through improved understanding of ecological issues.

GYSLC website. The Greater Yellowstone Science Learning Center, which receives support from Canon U.S.A., Inc., through the Yellowstone Park Foundation as well as the Yellowstone Association, has been recognized as a model website strategy for NPS Research Learning Centers and Inventory and Monitoring Networks throughout the nation. Progress in 2011 included continuing development, expansion and diversification of site content, capabilities and site-visitor statistics as staff continues to explore the opportunities for scientific communication represented by this online learning tool.

Yellowstone Science. Yellowstone's primary science and research periodical marked its 19th year of publication in 2011, reaching nearly 4,000 subscribers across the US and in 13 foreign countries. The highest rate of increase was among online subscribers. The year's highlights included articles about Yellowstone's bison management activities; soundscape research and the visitor experience; archeological inventories of Yellowstone Lake; and a range of other notable topics.

Biennial Conference. In 2011, staff began planning for the 11th Biennial Scientific Conference on the Greater Yellowstone Ecosystem, "Greater Yellowstone in Transition: Linking Science and Decision Making." The conference will be held October 8-10, 2012, at the Mammoth Hot Springs Hotel for approximately 200 attendees. The planning committee, comprised of science communication and other YCR staff, oversees all aspects of the coordination, organization, and logistics for the conference. Preliminary arrangements coordinated during 2011 included reserving conference facilities and establishing a dedicated website with advance event information, among other activities.

Resource and Visitor Protection

Budget

	FY09	FY10	FY11
ONPS	\$8,100,500	\$8,647,600	\$8,401,900
ARRA		\$105,092	
Special Use	\$361,841	\$358,016	\$356,085
Resource Damage Recovery	\$102,014	\$1,463	0
Proceeds from Sales	\$3,602	\$1,796	\$2,819
Reimbursable Accts	\$338,723	\$506,031	\$447,562
Fee Collection	\$1,396,088	\$1,408,387	\$1,461,888
FLREA	\$894,930	\$616,810	\$869,416
Donations	\$231,170	\$277,444	\$294,028
Restitution	\$7,762	\$37,594	\$18,357
Federal Hwy	\$66,973	\$76,229	\$13,065
FILM		\$31,046	\$43,227
FIREPRO	\$2,090,366	\$1,007,034	\$900,136
TOTAL	\$13,593,969	\$13,074,542	\$12,808,483

Visitor Services Office Park Recreational Visitation

Visitation in 2011 topped the 3 million mark for the fifth straight year.

North 682,280	East 401,188	Total Recreation Visitation
West 1,394,106	Northeast 217,632	3,394,320
South 699,114		

Parkwide Fee Collection Program

RVP fee collection operations include 5 entrance stations with 11 kiosks, an honor system at Bechler Ranger Station and 7 campgrounds totaling 454 sites (open seasonally May to October, except Mammoth which is open all year).

The entrance fee options include: *America the Beautiful – The National Parks and Federal Recreational Lands Pass Program*. The pass series includes an \$80 annual pass, \$10 Senior Pass and non-fee Access Pass; the Yellowstone and Grand Teton Park Pass was \$50. Entrance fees were \$25 per vehicle/7 days. Campground fees continued at the same price \$12 or \$14 a night depending on amenities at the campground.

Approximately 80 percent of fees collected remain in the park to accomplish projects the park has been unable to fund through yearly congressional allocations. Projects include road improvements, enhanced accessibility to park buildings and resources and campground and amphitheater upgrades. Most visitors are supportive of fees as long as the majority of fees are retained in the park to help protect the park and its facilities.

In 2011 the National Park Service offered free entrance during Jan 15-17, National Park Week April 16-24, June 21, as well Public Lands Day in September and Veteran's Day Weekend, Nov 11-13.

Fees Collected in 2011

North	\$1.8 M		
West	\$3.5 M	Campgrounds	500,460
South	\$188,000	Fish Permits	774,950
East	\$1.6 M	Boat Permits	24,000
Northeast	\$637,000	Total Fees	
Bechler	\$8,100	Collected	\$9,312,500
WYVIC	\$204,000		
VSO	\$76,000		
Sub-total	\$8,013,100		

Communications Center

The Yellowstone Interagency dispatch center continued to facilitate interagency cooperation and communication. The center dispatcher's answered nine 911 lines, 8 direct phone lines and the park switchboard. We dispatched on 4 Park Service radio channels with 11 separate repeaters as well as the US Forest Service frequencies. We monitored over 300 alarm accounts and 63 live cameras park-wide. In 2011, the center handled 21,214 calls for service and 2,046 for administrative function. The vast majority of these calls were for law enforcement or emergency medical purposes. We issued 6,284 case numbers. The center also facilitated park-wide operations including handling flight-following for 141 research flights, 1,507 maintenance calls for service, 312 road reports were logged, and 249 people on administrative travel were tracked. Also this year, the Yellowstone Interagency Center was featured in a national publication for excellence in emergency medical dispatching.

Corrals

Bison Operations consumed the first quarter of 2012. We started working bison the beginning of December 2011, and most available horse personnel worked with the bison until June. Operations included hazing and trapping, feeding approximately 700 bison at the Stephens Creek

Pens, feeding in excess of 400 tons of hay through this period. Sixteen saddle horses were brought from winter pasture to get through this operation.

The new barn at Stephens Creek was completed in March, and staff moved in as time allowed. A dedication dinner was provided by the Yellowstone Park Foundation, steaks and music by Montana Rose. This was a great way to break in the new barn and start off the season. Many thanks to all those who provided their help and expertise getting us moved into our new digs. There were many inside projects to be completed after the contractor released the barn to the NPS. The projects were completed by many work units in Yellowstone and included:

- 4" steel pipe hitch racks were constructed and installed by Corrals staff and North District rangers Brian Helms and Kevin Dooley.
- The plank shoeing floor and feed mangers were completed by Trail Crew leaders Michael Hoffman, Kevin O'Reilly, Mark Filonczuk, & Chris Atkinson.
- Wendy Hafer, Doug Kraus, and Ryan Tripp put the final seal on the concrete floors, installed all the baseboards and poured a concrete step in front of the tack room.
- The Carpenter Shop built seven work benches for the saddle repair shop, cabinets in the bathroom and Vet Supply.
- The Electric Shop added welding receptacles, and additional lighting and receptacles on the upper storage area.
- The North District road crew hauled in fill and elevated the area next to the barn for new corrals(next year's project) along with grading around the building and putting in French drains.

The barn was built with no access to the huge upper storage area. In October, Trails Animal Packer Karl Hanson and Trails Worker Chris Adams undertook the task of building a stairway, and it was a great improvement.

Spring brought the farming project with YCR. We spot seeded acreage in the Gardiner Basin Restoration Project with Barley seed, and in the fall Corral Operations once again seeded the total acreage in winter wheat. Corrals staff and Buffalo staff Doug Blanton and Chris Geremia moved the old office/tack room to the Buffalo pens to be used for bio-tech lab when blood testing Buffalo. Special Projects tore down the old hay shed and that area will be used for new corrals in the near future.

Regular operations included providing health care for the stock including: vaccinations (including West Nile virus), de-worming, Coggins testing, shoeing, training young stock and new stock, supplying feed to the field stations and packing support for all divisions.

Training consisted of two, one-week Basic Horsemanship classes at Stephens Creek, conducted by horse trainers Alvin Pierce from Paradise Valley and Larry Todd from Wilcox, AZ. Wally Wines and Margie Hoffman did the first day introduction, Trails Packer Ben Cunningham and Backcountry Ranger Brian Helms did introduction to packing. Montana Equine Associates veterinarian Dr. Al Flint conducted a Backcountry First Aid course which was well received by staff and put to good use taking care of Yellowstone's stock in the backcountry. Montana State University Horseshoeing School again assisted with the fall shoeing. Wally and Ben provided four, one-day Horsemanship refreshers in the interior.

At the end of 2011, Corral Operations had approximately 103 horses and mules. One mule was put down at winter pasture due to a mishap with a cattle guard, 4 horses and 2 mules were sold at auction, due to old age or health issues. Two new Percheron draft cross geldings were purchased by Mary Meagher and donated to Corral Operations.

Backcountry Management

A record snowpack during the winter of 2010-2011 resulted in numerous campsite and trail closures well into the prime visitor use season. High water, dangerous stream crossings, and deep snow persisted throughout July and even into August in some areas. Backcountry office staff spent numerous hours contacting visitors and commercial groups with reservations in an effort to reroute or reschedule their trips. Numerous trips were also cancelled. As a result, the total number of backcountry permits issued dropped 15.4% from 2010.

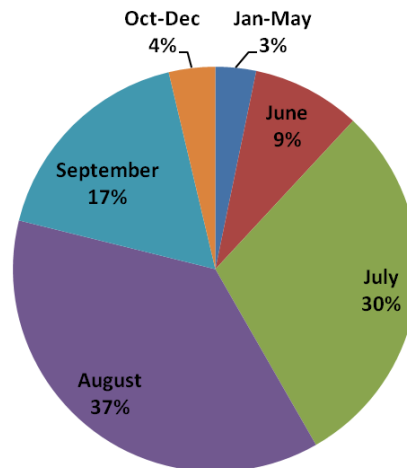
In the advance reservation system, 1,756 backcountry permit reservations were made. This was an 11.4% decrease from 2010. The decrease can also be attributed to the problems with backcountry access from the record snowpack.

Of the 1,756 backcountry permit reservations over half of them were made in April. Dagan, Ivan, and Rachel Cudmore processed 913 public reservations during April 2011.

The revenue generated from the backcountry reservation fees (\$42,930) was used for Central Backcountry Office staff salaries and to fund operational costs of maintaining a reservation system. Three new computers were purchased for backcountry permit offices in 2011.

Backcountry Use Statistics

2011 Person Use Nights By Month



	2009	2010	2011
# Backcountry Permits Issued	5638	6090	5154
# People Use Nights	39714	44962	37206

# Stock Use Nights	5503	7001	5375
# Advanced Reservations	1708	1981	1756

Commercial Use Management

In 2011, 46 saddle and pack stock outfitters were authorized to operate in Yellowstone under Concessions Permits. Three of these were llama packers. One transfer of a stock outfitter permit was completed in 2011. In 2011 we did not conduct a business meeting with the commercial stock outfitters. Eighty-seven guides completed the self-administered guide certification in 2011. The guide certification is valid for two years.

In 2011 there were 25 businesses operating under Commercial Use Authorizations (CUA) and 3 groups operating under Special Use Permits (SUP) and permitted to conduct overnight backcountry trips (backpacking and boating). Despite the shorter operating season due to limited backcountry access in the spring and early summer, commercial use in the backcountry did not seem to be significantly impacted and in some instances increased compared to the previous year.

	2009	2010	2011
# Commercial stock overnight trips taken	118	134	121
# Commercial stock day trips taken	536	516	641
# CUA overnight trips taken	152	171	217

Wilderness Management

The draft Backcountry Management Plan remains in draft form, no additions, changes, or actions were applied. No changes have been made to Yellowstone's Wilderness Recommendation – 2,032,721 acres of Yellowstone's backcountry is Recommended Wilderness. Most non-emergent administrative actions that occur within Yellowstone's Recommended Wilderness must undergo a Minimum Requirement Analysis to determine if the activity should be conducted within Recommended Wilderness and if so, then determine the minimum tool to implement the activity. Backcountry projects are analyzed through a Minimum Requirement Analysis and then reviewed by a 5-person board. The board is comprised of: Chris Glenn (RVP), Christie Hendrix (YCR), Ivan Kowski (RVP), Dan Reinhart (YCR), and Nancy Ward (Maintenance). Their recommendation is then forwarded to the Chief Ranger for final approval. In 2011, seven Minimum Requirement Analysis' were approved:

- Helicopter net-gunning of elk on the northern range
- Helicopter transport of material for the Blacktail Creek Bridge reconstruction
- Power boat transport of personnel into Flat Mountain Arm for bear trapping
- Helicopter transport of material for the Hellroaring Creek Bridge repair
- Helicopter transport of material, motorized use, and piscicide treatment of the Goose Lake chain for removal of non-native fish
- Helicopter transport and installation of trumpeter swan nesting platform at Grebe Lake
- Helicopter net-gunning of mountain goat and big horn sheep in the Cache Creek area

EMS & Search and Rescue

Resource and Visitor Protection managed 23 official Search & Rescue (SAR) incidents in 2011. At least 4 dozen other incidents, known as ‘hasty’ searches, or missing and/or separated parties were also managed by park staff. Most of these initial reports, while technically searches are easily and quickly resolved. Of the 23 official SAR operations, 12 incidents “went major” (un-programmed cost in excess of \$500). Two unfortunate bear related incidents resulted in our 2 reported fatalities. Three of our searches involved Mutual Aid, or were requests for help from our park neighbors. Total 2011 SAR related expenditures were in excess of \$115,344.00. Park staff contributed over 3,000 person hours to SAR incidents. A large part of the dollar expenditure can be contributed to the rescues where helicopters were utilized to evacuate victims or search for lost persons, combined with challenging recovery operations after two fatal bear attacks.

Notable SARs

The Wapiti SAR & the Mary Lake SAR proved to be both tragic for the victims and challenging for all park staff involved in the incidents. A sow with cubs acted protectively in July and attacked a day hiker from California. His wife was unharmed. A second adult male, hiking alone in an area well known and signed for bear activity, was attacked and fatally wounded the following month. There were no witnesses to help us know the specifics of the attack. The incidents have prompted review of our messaging and education for both day hikers, overnight backpackers, and all backcountry users. One search spanned two reporting years. The Isa Lake search, which began in October 2010, was resumed in September 2011. No additional signs or clues, nor the missing individual was located.

Training

Ranger and other Division Personnel in Yellowstone attended and/or instructed over 2,300 hours of training related to search and rescue in 2011. Yellowstone continued to provide both instructors and students for the NPS Basic Technical Rescue course held in Moab, UT every spring.

YNP TRANSPORTS				
	2009	2010	2011	average
CANYON	54	61	61	53
GRANT	38	43	43	36
LAKE	110	123	123	112
LAMAR/NE	12	16	16	12
MADISON	8	6	0	8
MAMMMOTH	56	86	86	70
OLD FAITHFUL	175	114	114	139
TOWER	17	33	33	26
TOTAL	470	482	482	456

EMS TRANSPORTS

ALS	402
BLS	68
TOTAL	470

NON TRANSPORT

ALS	44
BLS	178
TOTAL	222

This year involved changing the Yellowstone National Park Protocols to move more in line with NPS protocols for EMT B + EMT-I. This was a huge endeavor that was supported by many folks. In January we received 36 new Phillips FRX AEDs for YNP. EMS staff made a successful pitch to use concession franchise fees to support this program. Huge thanks to George Helfrich, Chief of Concessions, for supporting this effort.

Juanita Bueter is in her second year of being paid to teach AHA CPR and First Aid to NPS, Concession, Contractors and Gateway Community Members. We switched our Training Center to the Billings Clinic. This was no small task! Juanita coordinated 86 classes and 586 students in First Aid and CPR. In January a 40-hour EMR course was taught at the EMS classroom. Joe and Beth coordinated this training for the 12 students. The students and the EMS providers at HQ benefited from this training.

We want to thank the District Rangers, Deputy District Ranger's, local EMS coordinators, and CRO for their support as we strive to make YNP EMS the flagship program in the NPS System.

Trails

The 2011 RVP Backcountry Trails Program season culminated in many successful administrative and project endeavors. In June, Trails staff responded to requests from the Silvertip Ranch for assistance in improving administrative travel on the Slough Creek Wagon Road. Working with the park Superintendent, Ranger and Maintenance management and Silvertip employees, Trail Ops staff spent over a month stabilizing and repairing boggy and washed out sections of road with draft team-driven wagons, rock and gravel materials, and "Turnpike" and drainage structures. The successful joint endeavor culminated in the continued safe and unimpeded travel for Silvertip and public access and provided discussion for a long-term maintenance strategy to improve the road in future years.

The 2011 Backcountry Trail Operations service-day observance of National Public Lands Day (NPLD) was also tied into the ARRA Trails and Footbridges project in late September when participating volunteers and NPS staff celebrated the day by addressing erosion, drainage and restoration issues on the Snow Pass trail. The project was designed to consolidate, complete and expand previous work undertaken on trail segments near the Upper Terrace Drive of the Mammoth Hot Springs area. Continuing with previous tradition, the day was once again observed in the spirit of public service and support so well-defined in the credo of NPLD and NPS enabling guidelines and legislation. The day's celebration was once again enriched by the dynamic support of Park Volunteer Coordinators of the Interpretive Division who provided participants with snacks, drinks, energy and enthusiasm to carry them through the day of hard labor. The group received a general orientation, safety review, and ergonomic stretch session within the trail theory/skills orientation upon arrival at the worksites. A great time was had by all

during this beautiful fall day and group members were already making plans regarding next year's participation.

Successful Administrative undertakings:

- Partnering with Maintenance Division in Contracting for the Blacktail and Hellroaring Suspension Bridge Rehabilitation Projects.
- Division/Program representation as YELL Agreements Technical Representative for the NPS/Montana Conservation Corps 5-year Cooperative Agreement.
- ATR creation and implementation of NPS/MCC Project Task Agreements and procurement documentation for partnering youth crew participation in the 2011 YPF Trails Fund Initiative and State Recreational Grant trail projects.
- Division/Program representation within the Yellowstone Wilderness Minimum Requirement Analysis Committee.
- Division/Program representation in the Yellowstone Root Cause Analysis Safety Committee.
- Joint-undertaking of field-level surveys with technical representatives from the YCR resulting in establishment of trail project environmental permits and CEs.

2011 also brought the implementation of multiple FLREA and grant-supported trail projects. Over the course of 22 weeks NPS Trails staff addressed numerous safety, resource protection and deferred maintenance issues in the field while constructing reroutes, bridges and turnpikes, erosion control and drainage systems while rehabilitating and re-vegetating segments along 88 miles of the following trails:

Slough Creek, Blacktail Creek, Hellroaring Creek, Lamar River, Boiling River, Beaver Ponds, Buffalo Plateau, Mallard Lake, Fawn Pass, High Lake, Sportsman Lake, Black Butte, Specimen Creek, Fairy Falls, Pebble Creek, Pelican Valley, Thorofare, Cascade Creek, Heart Lake, South Boundary, Bechler Canyon, and Shoshone Lake trails.

Work continued on the planning, design, and rehabilitation of the Blacktail Suspension bridge. Trails, Safety, Maintenance, RVP, Wildland Fire Helitack staff and CTA Structural Engineers continued the adjustment and refurbishment of the Blacktail suspension bridge. Once again, this interdivisional collaboration undertook a highly challenging and complex project to treat and repair deteriorated masonry, wood and steel components while adjusting the 2,281 foot cable suspension system. In addition, the crews removed a hazardous footlog crossing and constructed a 451 foot "Stringer and Plank" footbridge across Blacktail Creek, renewing seasonal access to the Blacktail barn and visitor campsites which were seasonally blocked by high water runoff. All work was completed in partnership with the Park Safety Officers where Fall Protection and barricade safety systems were designed and interwoven into the various project modalities. Underscoring this was the continued specialized training of the Project Leader in advanced Fall Protection during the spring at the Gravitech training center, home of the creators of the NPS Fall Protection Program Guide. The Blacktail Project was once again greatly supported in 2011 with incorporation into the sixth year of the Yellowstone Park Foundation (YPF) Trails Fund Initiative donor-supported trail projects, partnering NPS FLREA funding with the generosity of supporters such as Conoco Phillips, Coca-Cola, Dr. Scholls and numerous other friends of the park.

The Trails Operation also garnered successful funding submittals from the Montana and Wyoming State Recreational Grant Programs. The Montana "Buffalo Plateau Trail Restoration

Project” and the Wyoming “Heart Lake Trail Restoration Project” proposals supported 10 weeks of partnership with the MCC addressing needed corridor realignment, reconstruction and rehabilitation needs.

Partnerships:

Innovation, collaboration and partnerships with various youth and volunteer service organizations continued to be successful key components of the Backcountry Trails Operation. In 2011, Yellowstone benefitted from the assistance of 34 crew weeks on joint trail projects with our Cooperating Groups including: Montana Conservation Corps (MCC), Yellowstone Youth Conservation Corps (YCC), Continental Divide Trails Alliance (CTDA), and dedicated individual volunteers. As per usual, the YPF continued to demonstrate comprehensive and enthusiastic support of our youth partnerships with support of 4 projects and 36 of the crew weeks contained within the scope of the 2011 Trails Fund Initiative.

2011 once again saw the continuing tradition of joint safety/trails skills partnership trainings between NPS trails staff, Yellowstone Youth Conservation Corps and Montana Conservation Corps Leaders and crew members. The two weeks of trainings offered the opportunity for the work groups to continue building upon essential foundations while providing for treatment of compromised assets and resources on the Boiling River, Snow Pass, Lava Creek, Claggett Butte, Howard Eaton, Rescue Creek, Wolf Lake, Riddle Lake, Beula Lake and Hellroaring Creek trails.

Wilderness:

The Backcountry Trails Operation continues to incorporate wilderness guidelines into the relationship with safety, backcountry, resource, asset management and cost-containment issues in Yellowstone. Minimum Requirement Process caveats are examined within the Yellowstone MRA committee; backcountry projects are examined and scoped accordingly and investment continues to be placed in training and procurement to enhance the use and maintenance of traditional skills and equipment.

This year, additional Trails Operations Leadership attended Crosscut saw training at the National Forest Service Ninemile Carhart Wilderness Training Center. Mammoth Community Center space was utilized to conduct in-house trainings in critical theory and skills. In 2011, the program also planned and implemented structures, projects, and subsequent site-specific MRAs using the guidance of the Trails Maintenance Programmatic MRA completed in 2009. Using wilderness guidelines, RVP Trail Operations will continue to create and hone information and skills needed to improve upon the challenges, the caveats and guidance of the multiple environmental, fiscal and asset-driven directives it operates within.

Structural Fire

In October 2011 the Structural Fire Program added a Deputy Fire Chief, Michael Schell. Larry Stowell was hired as the Fire Mechanic replacing Johann Anderson who retired in November of 2010. With the addition of these two positions the Structural Fire Program is fully staffed with five full-time positions; Fire Chief, Deputy Fire Chief, (2) Fire Protection Specialists, and a Fire Mechanic.

In 2011 there were 112 active fire fighters. Of the 112 fire fighters 95% of them responded to fire calls during the calendar year. Unfortunately only 77% attended any form of training. This is

a shortfall that will be addressed during the 2012 calendar year. As workloads increase for the paid-on-call volunteers it is becoming difficult to maintain all the required skills the fire fighters hold. Creative training will be the theme of 2012.

Of the 112 paid-on-call fire fighters 81% (90 FFs) were National Park Service employees, 14% (16 FFs) were Xanterra employees, and 5% (6 FFs) were VIP Interns.

Responses in 2011 increased from the previous year. There was an 11% increase in false alarms. There were a total of 116 false alarms in concessions buildings and 67 false alarms in NPS buildings for a total of 183 false alarms.

In 2011 there were a total of 89 classes taught. They were: 81 Weekly training sessions, 2 Exterior Fire Fighter, 1 Driver Operator, 2 Fire Fighter I, 1 Fire Fighter II, 1 Fire Officer I, and 2 Winter Driver Operator. There were 740 total hours of instruction offered through 89 classes.

Yellowstone National Park received the delivery of a 1996 Pierce 65' aerial apparatus. This apparatus came from Golden Gate NRA. This apparatus, Truck 51, will be stationed at Old Faithful. Once the Old Faithful Fire Company is trained on how to operate their new apparatus the Contender at Old Faithful will be moved to Lake. In addition to Truck 51 the department received a Ford 550 chassis which will be equipped with a Monroe Rescue Body. This vehicle will be a light duty rescue truck based in Mammoth.

In 2011 the Structural Fire Department experienced more growth. Now the department with need to reorganize and restructure to ensure the new additions will be utilized to their full potential.

Wildland Fire

Record snowpack levels and a cool, wet spring resulted in a predictably mild wildland fire season in Yellowstone this year. The average fire season for the park since 1972, excluding 1988, is 29 wildland fires and 4,611 acres burned. This season there were 21 recorded wildland fires within the park. There were 16 that started by lightning, 4 were human-caused, and the origin of one fire could not be determined. There were 11 fires that were suppressed, 9 were managed long-term for multiple objectives, and 1 fire quickly went out naturally before a management strategy was selected. A total of approximately 2,000 acres burned within the park. The vast majority of this acreage was from the Point Fire which burned very visibly along the eastern shore of Yellowstone Lake from late August until early October. The final acreage and perimeter of the Point Fire will be determined next spring using satellite imagery because the fire burned actively until the area was blanketed with snow. The Point Fire and several other smaller fires started by lightning during the last week of August and were managed together as the Heart Complex for several weeks. The second largest fire in the park was the Gibbon Fire, located east southeast of Madison Junction on the Central Plateau, which grew unimpeded to 25 acres from its discovery on July 26 until the snow flew in early October.

The mildness of the fire season within the park enabled our wildland firefighting resources to support firefighting efforts elsewhere in the Nation. Our staff responded to emergencies in Alaska, Florida, Texas, Colorado, Oregon, Minnesota, Arizona, New Mexico, Montana, and Wyoming this year. There were 10 personnel from Yellowstone that participated with an

Interagency Type 2 Handcrew along with Gallatin National Forest firefighters that travelled to New Mexico to fight fire. This was the first time in a decade that this happened thanks in large part to the coordination efforts of our Fire and Aviation Dispatch Center. A big thank you also goes out to all of the supervisors throughout the park that contributed firefighters to this effort.

Accomplishments

Numerous other projects were also achieved collaboratively with Fire Cache personnel this season. Fuels treatment at the Fawn Pass Patrol Cabin was nearly completed. Burning the piles created by the treatment is all that remains to help ensure that this structure is defensible if it is threatened by a wildfire.

A new jack-leg security fence was erected at the helibase. Three new fire utility vehicles were retrieved from the manufacturer in Texas. Fire Management staff are working diligently on new environmental assessments and fire management plans for both Yellowstone National Park and Little Bighorn Battlefield National Monument.

Engine

This was the third year that Yellowstone hosted an Interagency wildland fire engine at the park. The park provides the Engine Foreman (Ryan Tripp) and one seasonal crewmember (Greg Oyler) and the Gallatin National Forest provides the assistant foreman and two seasonal crewmembers. The engine safely responded to emergencies as far south as Arizona, and supported wildfire and prescribed fire operations as far away as Florida. Ryan Tripp is also an NPS-certified Arborist, and was able to safely mitigate several hazardous tree situations around the park ranging from a complex debris jam at Fishing Bridge to a very large broken-top conifer next to the Albright Visitor Center which required tree-climbing. The Interagency engine crew also assisted the Gallatin National Forest with hazard tree removal at Soda Butte and Tom Miner Campgrounds, and at the OTO Ranch. If you have noticed improved visibility and sight-lines at various stop signs and blind corners in the Mammoth and Stephens Creek area you can thank the engine crew for their hard work to improve everyone's safety margin.

Helitack

Despite a slow start to the fire season in Montana and Wyoming, the crew and helicopter were very busy all season long supporting fire operations from Arizona to Minnesota. They flew a total of 215 hours with our contract helicopter in support of wildland firefighting and project operations. They also provided management oversight for another 77 hours of flight time accrued by on-call helicopters during peak activity times in the park. Fire operations consisted of personnel transport, water drops, cargo transportation, aerial reconnaissance, and medevac support. Numerous partners benefited from the Helitack crew's expertise and assistance with their projects including: YCR, Radio Shop, Trail Crew, University of Utah, and Natural Resource Conservation Service. Helitack was very active transporting bear traps and personnel following a visitor fatality along the Mary Mountain trail.

Fire Ecology

It was a busy year for the program which included the collection of ecological field data on fires, training, installation and maintenance of weather stations, regular fuel sampling, and many out of park fire assignments. The fire ecology crew visited 10 fire monitoring handbook (FMH) plots to collect post burn ecological data; four plots were within the Norris prescribed burn to monitor

specific objectives, and six were scattered throughout the park to monitor the effects of unplanned natural fires. The crew also revisited the Nez Perce cabin fuels treatment to complete 13 photopoints which document the treatment and subsequent blowdown. Five manual fire weather stations were set up and taken down, annual maintenance was completed on four remote automated weather stations (RAWS), and one permanent RAWS was installed near Canyon in June. The Mammoth National Weather Service (NWS) station was also retrofitted to become a RAWS, which concluded a two year effort by Jess Page. The fire ecology crew attended many training classes, workshops, and worked on different position taskbooks which include: Migratory Bird Act Treaty training, Google Earth workshop, S-230 Single Resource Boss, S-231 Engine Boss, I-300 Intermediate ICS, S-490 Advanced Fire Behavior Calculations, S-491 NFDRS, GRCA Helicopter Training Academy, Wilderness First Responder, and worked on their Firefighter Type 1, Engine Boss, and Crew Boss qualifications. In addition to all of this, the crew participated in out of park assignments for a combined 20 weeks, a weekly fuel moisture sampling program was completed, and the lead monitor position was converted from a term position to a permanent one.

Fire Dispatch

The Wildland Fire and Aviation Dispatch (WFAD) office was staffed by one permanent and two seasonal employees. This provided the staffing level needed to support other units outside of the Park. We were able to send a seasonal dispatcher to assist in the Bozeman Zone Dispatch office for several days while they were short staffed. Additionally, the Dispatch office was again able to release dispatch personnel to provide logistical and field operation support to Park fire and emergency operations as needed. WFAD filled separate orders for 24 single resources, 6 fully-staffed helicopters, and 3 fully-staffed engines in support of wildland fire nationally. In addition to Wildland fire support, the Dispatch office continued to support the Gulf Oil Spill by sending Park resources throughout the year. Due to heavy flooding this spring, Yellowstone was also called on to support BIA units in Montana, and these dispatches were performed by the WFAD office. The WFAD office also continues to have responsibility for IA Dispatch of fires outside the Park, in the Gardiner and Cooke City area. This year the office supported several of the Gallatin NF fires in these areas, far beyond initial attack, with communications, logistics and personnel. Flight-following hours continue to be a major component in the WFAD operations. This year over 887 flight-following hours were performed by the WFAD office. This includes flights by both fixed and rotor wing aircraft involved in fire, search and rescue, law enforcement, research, filming, avalanche operations, and courtesy flight following. This does not include time spent managing the 110 life flights that were utilized in the Park and the adjacent areas where Yellowstone has dispatch responsibilities. This is a sharp increase in life flight numbers from previous years. An average life flight takes approximately 2 hours, and many times longer than that. WFAD also supported 13 notable SARs (YNP and agency assist incidents), including two bear mauling fatalities, short-haul of an injured employee, a drowning on the Yellowstone River, four separate horse incidents, two significant backcountry medevacs, one local fatality, and two lost person incidents.

Resource Education and Youth Programs (REYP)

Budget Summary

For FY11, the division's base (ONPS) allocation was \$3,230,500. Other fund sources supported a variety of programs and projects. Complete itemization of fund sources and programming is reported in other documents.

Staffing

Permanent FTE totaled 20.19, temporary FTE totaled 45.79, for a grand total of 65.98 FTE. The total number of permanent positions was 23, the number of temporary positions totaled 179, and the grand total of positions was 202. These figures include the Youth Conservation Corps (YCC) program operation.

Staffing Overview

Tami Blackford served a four-month detail as the Acting Branch Chief of Planning and Media Development and accepted the position on a permanent basis in July. Bob Fuhrmann was named Youth Program Manager in July, a new position for the division. He took over parkwide Volunteer Coordination after FY11. Jeanne Roy was hired as a supervisory park ranger in June for the Old Faithful operation, coming from Katmai. Laurie Tuohy was hired as a supervisory park ranger in May for Fishing Bridge, coming from Carlsbad Caverns. Katy Duffy finished out the fiscal year as the South District Interpreter, and then moved to her new position as Interpretive Planner for the division in late September. Carolyn Duckworth left her position as Publications Specialist in May, and Jay Elhard arrived from Denali to fill the position in October. The Exhibits Program hired two part time Visual Information Specialists to assist with wayside exhibit development and ongoing data entry in PMIS and FMSS. The AV Office was fortunate to hire Diane Renkin as an office assistant to support ongoing still and video image conversion to online libraries. Amanda Brown was hired in the chief's office on a part-time seasonal basis to perform administrative functions.

General

Visitation to Yellowstone National Park in 2011 topped the 3 million mark for the fifth straight year. The final tally for 2011 was 3,394,321. While down 6.8 percent from the record 3,640,184 people who visited the park the previous year, 2011 was the second highest visitation year on record. More than one-fourth of the park's total annual visitation was recorded during the month of July, with 906,934 recreational visits.

After several years of major road construction projects that disrupted visitor travel on major park routes, 2011 was relatively uncomplicated by travel restrictions or shutdowns. Wildlife jams continued to create unpredictable traffic congestion, sometimes growing to several miles in length. Division staff along with employees in Resources and Visitor Protection and the Yellowstone Center for Resources continued to focus on managing these scenes to educate visitors about safe wildlife viewing practices, provide general information about various wild animals, and distribute bear and wolf wildlife cards and pins that have become collectable items for many visitors.

Two grizzly bear-related fatalities occurred in Yellowstone during summer 2011. These deaths were the first to take place inside the park in some 25 years. Investigations into both incidents were ongoing as the fiscal year ended, and staff was starting the process of reviewing visitor safety messaging and other programmatic or operational items related to bear safety education. This review will continue in 2012 and may also be enhanced by formal studies.

The new Old Faithful Visitor Education Center (OFVEC), in its first full year of operation, set an all-time attendance record of 1,190,189 visits. Visitation has doubled since the OFVEC opened on August 25, 2010. July visitation hits the highest level, at 280,840 visits, and the most visitors to OFVEC on a single day was recorded on August 2, 2011, at 10,580. OFVEC is open from 8am to 9pm from late May through September, with hours adjusted to seasonal visitation levels at other times of the year. OFVEC staff has recorded overwhelmingly positive comments from visitors, and note that people linger in the exhibit hall, which features a number of interactive exhibits including the highly popular geyser eruption model in the Young Scientists classroom.

For the last decade, the Division has managed the distribution and analysis of the annual GPRA Visitor Survey Card, and provided that function for the park again in 2011. Cards were distributed to visitors during the month of July at Tower Fall, Canyon Campground/Amphitheater, Madison Information Station and picnic area, Grant Campground/Amphitheater, Mammoth Hot Springs parking area (lower), Old Faithful Geyser benches, Fishing Bridge Visitor Center, and Norris Geyser Basin Museum. The 2011 Visitor Survey Card Data Report showed that 99% of respondents were satisfied overall with appropriate facilities, services, and recreational opportunities. 88% of respondents understood the significance of Yellowstone National Park.

The National Park Service's Director Jon Jarvis announced a Call to Action on August 25, 2011. This initiative is designed to look ahead to the NPS's 100th anniversary in 2016 and prepare for a second century of stewardship and engagement. Thirty-six actions are contained in the document, and not all are designed for or intended to be adopted by each of the NPS's nearly 400 units. The Division has identified several action items that readily align with existing and emerging programs and priorities.

Park and Division Partners

The Museum of the Rockies continued to contribute staff and volunteers from the Southwest Montana Astronomical Society to provide four days and evenings of solar and night sky observations and evening programs in the Old Faithful and Madison areas.

Staff assisted the Yellowstone Park Foundation (YPF) with field trips during FY11 board meetings, writing grants, and special tours for potential donors.

Major projects funded by YPF corporate donors included education programs such as the Wildlife/Visitor Safety and Education Program, *Yellowstone to You* (education outreach), *Yellowstone Field Trips (Day Use)* program, scholarships to *Expedition: Yellowstone!*, Junior Ranger and Young Scientist components, a restructured and refocused American Indian outreach program focused on young people and families, a majority of the FY11 YCC program, the Old Faithful live-streaming webcam, and web video production.

Both the Yellowstone Park Foundation and the park's cooperating association The Yellowstone Association (YA) undertook strategic planning exercises during FY 2011. YA held a two and a half day retreat in late August, and then finalized its plan at its September Board meeting. YPF began its process during FY2011 and it continued into FY 2012.

Long time YA Executive Director Pat Cole retired in March 2011 after nearly 25 years with the organization. Jeff Brown, Pat's assistant, was selected as the next Executive Director.

Operations Branch

Visitor facilities operated in FY2011 included Albright Visitor Center (year round), the new Old Faithful Visitor Education Center, Canyon Visitor Education Center, Fishing Bridge Visitor Center, Grant Visitor Center, Madison Information Station/Junior Ranger Station, Norris Geyser Basin Museum, Museum of the National Park Ranger (Norris Campground), West Thumb Contact Station, and the West Yellowstone Visitor Information Center. The Mt. Washburn Lookout includes a self-serve observation room that features exhibits identifying the mountains and other landforms visible from this high elevation perch, and interpreting the Yellowstone hot spot volcano as well as wildland fire ecology. During the winter season, Albright and Old Faithful visitor centers and West Yellowstone VIC were operated, and warming huts at Madison Junction, Fishing Bridge, and West Thumb provided basic winter visitor services. In addition, the lobby of Canyon Visitor Education Center was used for winter warming huts operations.

Park interpretive rangers staffed 13 different visitor centers, museums, and warming huts at which they and interpretive media (exhibits, multimedia interactive, films) provided information and orientation to 2,938,665 visitors (up 21.2% from FY10, due mostly to the overwhelming popularity of the new Old Faithful Visitor Education Center). They presented 8,102 formal interpretive programs to 279,703 visitors (down 3.7% from FY10) participating in walks, talks, hikes, and evening programs. Interpretive rangers provided informal interpretation (also known as "roving" interpretation) at critical resource locations throughout the park including geyser basins, along the rims of the Grand Canyon of the Yellowstone River, major overlooks and scenic attractions, wildlife jams, picnic areas, and campgrounds. Informal interpretive activities resulted in 339,283 (up 14.9% from FY10) visitor contacts.

This was the first year that the Junior Ranger program was offered for free. A total of 40,288 children and their families (up 48% from FY10) were served through the Junior Ranger and Young Scientist programs, the latter being available at Canyon and Old Faithful. 24,984 children were awarded patches for program completion. These programs were coordinated through the Education Branch, with publication production services provided by the Planning and Media Branch, and program delivery provided by the Field Operations Branch. A total of 12,110 Junior Rangers and their families participated in programs at the Junior Ranger Station, located in the former Madison Museum building.

The Elk Corps Volunteer Program was again successful in reducing autumn rut-related incidents involving elk-human conflicts in the Mammoth area. This was the seventh year of this project that operated with volunteers from early September through mid-October in the Mammoth Hot Springs Sub-district. Volunteers assisted in controlling crowds, creating a safe wildlife viewing

environment for visitors while protecting wildlife, and providing critical resource information to park visitors. Four volunteers were hired for the months of October 2010 and September 2011. Volunteers provided resource warnings for being too close to elk to 3,875 visitors and general information on elk biology and safety to 14,204 visitors.

The Safety and Wildlife Education Program, sponsored in part by the park's main partners, was offered once more in FY11. Interpretive park rangers provided educational information at the locations where wildlife and visitors interacted, informed visitors about wildlife habituation, enhanced visitor and wildlife safety, and reduced visitor/animal conflicts. Interpretive rangers made 57,775 educational contacts at wildlife jams, pullouts, campgrounds, and while giving evening campfire programs.

The Gateway Community Outreach Program continued to be a valuable communication tool for park management. District interpretive staff attended 41 community meetings in the tri-state area, making 986 professional contacts through attendance at Chamber of Commerce meetings, civic organization meetings, and special event shows in the region. The goal of this program is to continue to develop and maintain positive, mutually respectful, and beneficial relations with park gateway communities located in Montana, Idaho, and Wyoming. In addition to the normal exchange of information at these meetings, the Community Outreach Program became a critical component of the park's communication plan for ensuring that information about the Gibbon Canyon road construction delays and closures was widely disseminated throughout the main season of visitation.

Staff provided a variety of special tours, talks, and programs for visiting dignitaries and special groups. Staff provided programs for the YPF spring and fall board meetings and for potential YPF and NPF donors.

Branch of Interpretive Planning and Media Development

Planning/Project Management

Research began for the development of a new Long Range Interpretive Plan (LRIP). This included review and analyses of all relevant planning documents from the last several decades; review and analysis of all social science and visitor studies conducted in the park since the 1970s; review and analysis of Census Bureau data collected during the 2010 Census; and review and analysis of park data from the RVP and Concessions Divisions. Work on the LRIP continues in 2012.

Exhibit Program

The Exhibit Program is responsible for indoor and outdoor exhibits parkwide. This includes all facets of development from inception through design and content development, fabrication, and installation, on-going maintenance, and eventual replacement.

Located along roadsides and self-guiding trails, at trailheads, and in developed areas, wayside exhibits provide critical resource protection and visitor safety information in key locations. Wayside exhibits also help visitors learn about hundreds of Yellowstone's major features. The

wayside inventory is currently comprised of 350 units, with 15 of those in storage awaiting site work completion before they can be installed.

Multiple wayside projects moved through various stages of content research, design, and fabrication. Three were ready for installation: *Gardiner Basin: In the Rainshadow* and *Restoring the Range* were awaiting installation in the Gardiner Basin, and *Road Builders*, a project funded by YPF, will be installed at Gibbon Falls upon completion of the kiosk. Several projects were in fabrication at year-end including *Bears Need Your Concern* and *A Bear's Picnic*, both slated for a planned picnic area on Dunraven Pass; *Still Venting* planned for Lookout Point; and *Gibbon Falls: Cascading to the Caldera*, designed for a new pedestrian overlook. *Not for the Faint of Heart*, was developed as mitigation for the Lamar River Bridge replacement and is ready for review by WYSHPO. Waysides currently undergoing content research and development include a mountain peak identifier for Dunraven Pass; two safety and orientation panels for Tower; three bison natural history and safety waysides for Hayden Valley; three elk natural history and safety waysides for Mammoth; and one wayside providing education about the Mail Handler's Cabin in Mammoth. A custom-sized frame has been ordered to replace the bent frame near Roosevelt Arch. Other projects are in the early stages of development.

The Trail Leaflet Box located at Mud Volcano's south trailhead was reported to have wet brochures and moisture in the money drop. Upon investigation by local staff, it was determined that a hot spring had moved close to the box, heating the metal and creating condensation in the box. Several weeks later the hot spring receded and the problem disappeared. The box remains under observation.

Facility Management Software System (FMSS) inventories and assessments were conducted on 42 waysides, completing an inventory of 350 waysides. Visitor center exhibit assessments were also completed, including 157 components in the Canyon Visitor Education Center and 239 exhibits in the new Old Faithful Visitor Education Center. Ongoing tasks include entering cost estimates in the system and checking for missed data.

Extensive work continued on plans for the new Albright Visitor Center exhibits. Draft floor plan schematics evolved for the 2,000-square-foot area; text was drafted in-house for nine exhibits; a coyote specimen was acquired; communication with a bull elk donor is ongoing; a two-day meeting was conducted with exhibit contractors; and samples were received of flooring, tile, and other finishes.

Following the August 2010 grand opening of the Old Faithful Visitor Education Center, the new facility opened for its first winter and first full summer season. Most exhibits held up very well. As expected, normal wear and tear occurred on all exhibits, numerous exhibits showed moderate wear, and several units sustained damage or suffered from heavy wear. The park's exhibit and A/V staff were in contact with exhibit fabricators and worked with them on a warranty trip. A follow-up trip was also scheduled for FY12. Throughout the year, exhibit and A/V staff, along with local supervisors, became familiar with the new exhibits in order to conduct maintenance on them. Ongoing guidance was received from exhibit fabricators.

The Canyon Visitor Education Center is now more than five years old. Exhibits continued to draw enthusiastic responses from visitors while enhancing their understanding of Yellowstone. With a few exceptions, exhibit maintenance has transitioned from a steep learning curve into routine maintenance, although new skills continue to be acquired as mechanisms begin to age. In FY11, a professional topographic model artist was hired for two weeks to clean, touch-up, and maintain the “3-D” Yellowstone map model, and to clean the entire fleet of exhibits in the CVEC. Earthquake and volcano exhibits received updated data with the assistance of the park’s Computer Support Services, bringing educational information up to date with recent world famous earthquakes in Haiti and Japan.

As noted in other reports, precise counts of visitor use of exhibits are impossible to obtain for many reasons. However, reasonable estimates can be made from a variety of data. Informal observations reveal a high level of use and appreciation for both indoor and outdoor exhibits. Considering the year’s high visitation, and deducting that most visitors use at least two indoor and two outdoor exhibits during their visit, it can be estimated that exhibits were used more than 12 million times during the past fiscal year. Observation of actual behavior suggests that actual use is a much higher number, and visitor survey card results rate satisfaction with exhibits at 97%, making exhibits one of the most cost-effective methods of serving Yellowstone’s visitors.

Publications Program

Publications serve a vast and diverse audience of park visitors and the general public. As with exhibits, it is difficult to accurately count the many occasions when visitors used park-produced publications, and precise counts may never be obtained. It is estimated that during the course of a typical park visit in FY11, each visitor used approximately three different publications. Along with other interpretive media, publications are the most cost-effective means of providing services that are highly valued by park visitors.

During FY11, the publications specialist worked on more than 70 publications, including 32 recurring, and several one-time publications, and 35 site bulletins. The recurring publications included four editions of the official park newspaper *Yellowstone Today*, *Yellowstone Resources & Issues 2011*, the *Trip Planner 2011*, and eight self-guiding trail booklets used at major park attractions such as the Grand Canyon of the Yellowstone and Old Faithful Geyser areas.

The park newspaper became full-color with the summer edition. The publications specialist also produced a four-page full-color wildlife supplement for the park newspaper. A cooperator was hired to redesign the *Resources and Issues Handbook* for the 2012 edition. Significant support for safety and visitor comfort was provided through publications, such as the safety flyer handed out at entrance stations.

Web/Internet Program

The Web Office develops, maintains, and evaluates Yellowstone National Park’s official website and related assets, including electronic field trips on Windows into Wonderland and a social networking presence on Twitter. The Yellowstone web staff, consisting primarily of one full-time web program manager and one part-time web technician, operates the most visited website in the nps.gov system. The Web Office works closely with all park divisions, offices, and partners to acquire and manage information from which high impact, high quality, and diverse

interpretive and educational products are delivered to millions of users of all ages and backgrounds, nationally and internationally. Through dynamic web-based features, staff creates a “virtual park experience” designed to engage a global audience in understanding the significance of Yellowstone and become supporters of its preservation.

Web Office staff serve as consultants, along with a handful of other NPS employees, in working with the WASO Web Services Division and the Intermountain Regional web program to solve problems with the current system and continuously improve current websites while identifying appropriate new technologies to support ever expanding interpretive and educational programs and goals for the future. Web staff are currently preparing for the rollout of a sitewide design upgrade that should be launched in FY12. While no major functional changes are planned, a Social Media Hub and links to websites who have social media presences will be able to be added directly to pages.

The official website also continues to evolve in order to achieve broader goals relative to “e-government” and the transparency of government institutions. As traditional, static exhibits in visitor centers make way for more elaborate, interactive electronic exhibits featuring digital multimedia content, the Web Office has expanded into the realm of both creating and providing occasional maintenance for these products. Examples include the touch screen interactive Old Faithful Virtual Visitor Center Tour and the Geyser Prediction Board in the Old Faithful Visitor Education Center, and the real-time earthquake exhibit in the Canyon VEC.

The Old Faithful Live Streaming Web Cam continues to be the single most popular feature on our site and nps.gov as a whole. It was viewed more than 2 million times in FY11. The NPS has seen just how powerful such a feature can be and must consider how to leverage the power of such technology to achieve goals of connecting new and nontraditional audiences with parks while building an appropriate electronic infrastructure to support these technologies. The NPS has engaged with a streaming video service so that parks who can’t afford the bandwidth costs can do one-event, time-limited video broadcasts over the Internet.

The park’s Twitter site debuted on June 5, 2009, and grew to about 600 followers that year. At a current following of 10,920, Yellowstone’s Twitter audience almost doubled over FY10 levels, reflecting recent trends in the use of social media. Emergency notifications, road and weather conditions, fire activity, and general news are now sent automatically to a list of followers, many of whom include organizations with large followings (for example, Martha Stewart or the National Geographic Society) and local following (Billings and Bozeman media outlets). These items then get “re-tweeted” or forwarded to their followers, and so on. Communities form around specific areas of interest, such as fire management, wolves, and webcams. When inaccurate or misleading information begins to circulate on the web surrounding hot topics or issues, web staff can now tweet brief messages and links to officially released NPS information on official channels in a timely manner. The Web Office continues to research and develop proposals for policies that will lead to the managed expansion of social media as a way to effectively engage, communicate, and influence the public to support the NPS’s core mission and principles.

Aside from the Plan Your Visit pages on our site, the Photos and Multimedia section remains the second most popular offering we provide to the public. Photos and Multimedia Index, and

Webcams Index pages are “landing pages” (or entry pages) for many popular features, including the live-streaming camera and our web series Inside Yellowstone, Yellowstone InDepth, Visiting Yellowstone, and Exploring Yellowstone. Those two landing pages racked up more than 4.3 million page views in FY11. In fact, our Photos and Multimedia collection index page received more page views than most other national park homepages.

Our collection of Canon-funded videos is distributed on our official website at www.nps.gov/yell/ and through iTunes and Apple TV, and is featured in the Yellowstone Association’s Yellowstone National Park app on the iPhone/iPad/iPod platforms. Some of these public domain videos are also featured in other popular Smartphone apps offered by various vendors. At the same time, we are creating a high definition library of B Roll footage for both internal use and external release through various media outlets.

Photography/Videography/AV Technical Support Program

The park photographer/AV specialist responded to hundreds of requests for services from all park divisions and partners. Special events that required photo documentation in FY11 included the inauguration of Superintendent Dan Wenk and the parkwide staff meeting with Secretary of Interior Ken Salazar.

Although the slide scanning and digitization project is now largely complete, photographs are edited and catalogued on an ongoing basis to keep the digital image bank current. These efforts continue to be complicated by the process associated with the NPS Content Management System. However, the existing collection of digital images available to the public online is highly popular, and the web pages remain among the most visited on the park’s website. YNP staff has access to the entire digital image collection on the local network.

Images needed for park use in FY11 included new photography of artwork for trailside exhibits for Mammoth Hot Springs, and parkwide natural history views and activities. This office provides essential support for all interpretive programs and interpretive media development including exhibits, publications, and the park website, and is frequently called upon to support other staff projects and to accompany non-NPS photographers and media. Photo research was required to locate images for park projects as well as to fill requests from individuals, agencies, and organizations outside the park, such as the Yellowstone Park Foundation, school instructors, and media.

This office is responsible for coordinating the equipment management and troubleshooting of the audiovisual systems in nine visitor contact facilities and nine campground amphitheaters. Of particular note in FY11 were the problems in the OFVEC auditorium. Staff also continued to liaison with Harpers Ferry Center for Yellowstone’s audiovisual equipment.

A significant amount of time was spent in FY11 on the troubleshooting and repairs of the OFVEC exhibits. The geyser model took a considerable amount of time cleaning and maintaining. A variety of upkeep and maintenance issues at the Canyon Visitor Education Center were also managed, including repairs on the Kugel globe backwash filter. The lava lamp required maintenance and adjustments to the water, wax, and dye for optimal performance.

Branch of Youth Programs

Education

The division continued internal evaluation of the Youth Programs Branch (formerly the Education Branch) with primary goals to: 1) reach new and underserved audiences; 2) use funds—both public and private—most efficiently and effectively; 3) make Yellowstone’s resources relevant to visitors; and 4) cultivate a stewardship ethic among young people so they will gain not only an understanding of the importance of protecting the park, but also of the broader sustainability practices that can make a difference in their own communities. Yellowstone continued to improve upon programs funded by Toyota USA in 2011.

Yellowstone to You—the education outreach program—was successful in engaging new audiences at regional science fairs, powwows, expos, American Indian reservations and schools, and other community events and regional schools to provide hands-on activities for youth and their families. Staff attended and participated in 121 such events, and contacted 11,788 individuals. Staff carried on consultation with teachers from some of the six schools targeted with high numbers of American Indian students in Idaho, Montana, and Wyoming. Multiple off-site visits to these schools occurred in FY11.

Youth Programs Branch staff was responsible for the administration of the Junior Ranger program. They conducted 22 Junior Ranger Wildlife Olympic events parkwide for 4,070 kids and their families.

The park continued to offer *Yellowstone Field Trips (Day Use)* programs to primary, secondary, and college students visiting the park. One hundred seven programs were offered for 3,073 visitors.

Education staff presented programs and provided educational materials on Yellowstone resources to 36 teachers participating in workshops in the park and region that were sponsored by external organizations.

Toyota USA, through a Yellowstone Park Foundation grant, continued to provide generous support for the *Yellowstone Field Trips (Day-Use)* program, Junior Ranger and Young Scientist programs, the *Yellowstone to You* program, the Distance Learning program, and assistance to teachers.

In 2011, 1,277 students, teachers, and chaperones representing 48 schools, participated in the residential education program, *Expedition: Yellowstone!* (EY). Of that number, 40% of the students, representing underserved and/or disadvantaged target audiences, received full or partial scholarships (\$38,420) to attend the program. The Yellowstone Park Foundation supports this program through a special EY scholarship fund.

Park staff continues to research the broader concept of providing a distance learning program that could be used by educators and their students anywhere in the country throughout the year. Eight presentations, via live video conferences, were provided to 342 students as part of the pilot

program in FY11. The distance learning concept will continue to be developed to address lifelong learners of all ages and with a mostly informal education focus and design.

Youth Conservation Corps

Yellowstone's Youth Conservation Corps (YCC) program is a residential camp running from mid June through mid August. Established in 1984, it has operated annually since 1989. The program emphasizes work ethics, introduces participants to the spectrum of NPS career opportunities, supports environmental awareness, and promotes recreational activities that encourage participants to build lifelong healthy habits.

Yellowstone's YCC has continually been an extremely productive and influential youth program and the 2011 season was no exception. The outstanding leadership provided by the dedicated YCC staff steered the Environmental Education and Experiential Recreation programs to new heights and led to the completion of many quality work projects throughout the park. The commitment and character of the seasoned YCC staff made them strong mentors for the participants of the program.

Two month-long sessions were provided in summer 2011 for youth ages 15–18, resulting in 46 youth participating in the program. Several changes resulted in program improvements and results that better achieved park and national goals for youth programs. The annual cost of the program is approximately \$330,000 and is funded in part through gracious support from the Yellowstone Park Foundation.

Staff developed age-appropriate work projects for crews, reducing injuries, improving safety, and providing a better introduction to the workplace for these mostly inexperienced young people. The park increased the total number of hours of interpretation and education for enrollees to 25% and provided more in-depth education on government/NPS careers than previously offered.

The division hired a more diverse work group than ever before. While youth from across the country were selected to participate in the program, recruitment efforts concentrated on youth from American Indian reservations and/or schools in Wyoming, Montana, and Idaho. For summer 2011, two of the 15 YCC staff were Latino and Thai-American; two of the six returning youth leaders were diversity hires (one African American and one American Indian); and of the 41 youth enrollees, two were American Indian, three were Latino, one was African American, and one was Pacific Asian.

The Yellowstone YCC program directly supports Secretary Salazar's vision of a national youth program that would provide jobs, outdoor experiences, and career opportunities for young people, and Director's Order 26, Youth Programs, by providing a program that helps young Americans understand the importance of protecting and preserving the cultural and natural resources protected within the national park system. In addition, by reaching out to young people from different social and economic backgrounds, the Service provides special opportunities for young Americans who might not otherwise have the chance to visit or work in a park.

YCC staff completed several work projects throughout the park.

- Installed 109 water bars and check dams, cleared 45 drains, and “brushed” 13.4 miles on various trails.
- Installed 908 feet of new buck-n-rail fence and repaired an additional 300 feet. Installed 183 feet of post-n-rail fence.
- Cleared a 10,240-square-foot corridor at Norris Geyser Basin to make way for maintenance to install a new accessible boardwalk to Steamboat Geyser.
- Installed 391 feet of bumper logs and replaced the 25-foot bridge over Elk Tongue Creek.
- Removed 500 pounds of hazardous wire and other scrap metal from the northern boundary of the park near Stephen’s Creek.
- Worked on 8 floating docks on Yellowstone Lake.
- Installed 25 new “bear boxes” at Pebble Creek and Slough Creek campgrounds.
- Collected 45 pounds of native seeds and planted 13,546 new plants to rehab the old roadbed in Gibbon Canyon.
- Worked with staff on one Junior Ranger Wildlife Olympics event in Mammoth.

YCC Environmental Education Projects

YCC staff provided students with daily lessons from the updated Education/Awareness curriculum and never hesitated to take advantage of the many teachable moments provided by the park throughout the summer.

The main educational themes were incorporated within the four spike weeks and included: Yellowstone geology and cultural history; Yellowstone animals, habitats, and ecosystems; Yellowstone plants and food choices; and urban conservation and sustainability. Though the work weeks ran Monday through Friday, the experience and exploration was not confined within those days.

The weekends provided unique recreation opportunities including: rafting the Yellowstone River; fishing; swimming; backpacking in Yellowstone and Grand Teton national parks; summiting Avalanche, Bunsen, Observation, Purple Mountain, and a number of other peaks; wildlife watching; and playing sports after hours.

Career Opportunities

Staff and enrollees heard from many knowledgeable guest speakers about careers with the NPS and specific project work and research taking place in the park. Speakers came from a variety of divisions and included Steve Iobst from the Superintendent’s Office; Tyler Coleman, Lee Whittlesey, Hank Heasler, Colby Anton, and Heidi Anderson from YCR; the Lake maintenance staff; Matt Heinz and Bill Hopkins from RMVP; John Rhoades and Karin Schwartz from Administration; Danielle Chalfant, Bill Wengeler, Matt Ohlen, and Sacha Charny from Interpretation; the Yellowstone Green Team; and other non-NPS employees including Jim Halfpenny from Gardiner, Montana, and Carmen Clayton from the Wyoming Archeologist Office.

Parkwide Volunteer Program

Bob Fuhrmann was named the new Yellowstone Volunteer Coordinator in July. During FY11, 98 supervisors accepted the generosity of volunteers. The VIP program was improved for volunteers by using the www.volunteer.gov website to proactively advertise volunteer job

opportunities that are available in the park. This method of connecting park VIP opportunities with qualified volunteers will continue to be expanded. The park made major advances by providing volunteer supervisors with online service and support via Yellowstone's Intranet site, resulting in improving the completion of paperwork in a timely manner and maintaining better records for VIP hours and VIP reimbursements.

Six hundred ninety-five volunteers (including SCAs) contributed a collective total of 84,666 hours parkwide in FY11, which equates to an approximate donation of \$1.8 million dollars of work value to Yellowstone. The following groups are highlighted to illustrate the variety of ways in which volunteers are involved in supporting the NPS mission in Yellowstone:

- For the 11th consecutive year, the ARCH Yellowstone Volunteers partnered with the Wounded Warrior Project and the Yellowstone Park Foundation. For one week, 20 volunteers reconstructed the West District Corral including: reconstructing three corrals, replacing gates, and adding a 60-foot diameter round pen for training and working horses. This work included installing fence posts, bolting 700 linear feet of fence rails to the posts, and constructing a West Corral entrance complete with a carved wooden sign. The volunteers consisted of 11 members from [ARCH Venture Partners](#), led by Clint Bybee, ARCH co-founder and Yellowstone Park Foundation (YPF) Advisory Council member; eight veterans from [Wounded Warrior Project](#); some intrepid YPF staff and volunteers; two local citizens; and 16 National Park Service staff.
- For National Public Lands Day, 18 volunteers performed repair/rehab on a 0.75 mile stretch of the Snow Pass Trail near Mammoth. A group of 25 high school seniors and 6 adults from Michigan assisted with repainting the historic Fishing Bridge, sweeping the bridge and walkways, and painting two buildings and log barriers.
- 5 VIPs from across the U.S. and in Great Britain remotely operated the Old Faithful live-streaming web cam. Millions of web visitors can experience live eruptions of Old Faithful Geyser as well as other geysers seldom seen by "real" visitors to the park. No other single program has such high visibility or public impact, as documented through page visit statistical monitoring.
- Protection VIPs issued backcountry permits, helped visitors file paperwork from vehicular accidents, and completed backcountry trail and campsite work.
- Maintenance VIPs removed weeds, cleaned-up grounds near park buildings, and completed other work throughout the park.
- 181 VIPs and 22 SCAs donated more than 25,000 hours to natural and cultural resource projects including fisheries, wildlife, geology, exotic vegetation removal, and archival work.
- The Upper Geyser Basin Volunteer Corps contributed 404 hours and contacted 20,237 visitors providing information on hydrothermal features and wildlife safety to park visitors in the Old Faithful area. Two from this group also monitor resources and compile data that is used by the park's geologist.
- The Elk Rut Volunteer Corps (4 VIPs, Oct 2010 and Sept 2011), donated 678 hours and provided elk education and safety messages to 14,204 visitors at Mammoth Hot Springs. Volunteers also assisted interpretive park rangers working the information desks at visitor centers.

Safety

Although the division had seven injuries for 125,321 hours worked, none (0.0%) were DART injuries. This was the second year that the division had responsibility for operations of the Youth Conservation Corps (YCC). Although there were five YCC injuries, this rate was significantly lower than in past years and is likely due to the project work being more age-appropriate for 15–18 year olds. Field supervisors were provided with information on slips, trips, and falls for employees to use at safety tailgate sessions. The Operations and Youth Programs Branches completed 566 safety tailgate sessions and 12 safety observations (walkthroughs) for employees or facilities. Several staff members completed the Operational Leadership training.

Other

Division staff served on various interdivisional work groups including; the Research Permit Team, the Environmental Management Team, the parkwide Employee Safety Council, the Resource Compliance Team, the Exotic Vegetation Management Team, the Yellowstone Space Team, the Lake Comprehensive Planning Team, and the Old Faithful Comprehensive Planning Team.